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ABSTRACT

This trainee guide contains six units of materials for use by those studying to become school bus drivers in the State of Illinois. Covered in the units are the following topics: school bus driver role and responsibility, passenger control, first aid, driving fundamentals, accidents and emergencies, and detecting hazards. Each unit contains a table of contents, objectives, an overview, one or more sections of text, and review questions. (MN)

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ILLINOIS
SCHOOL BUS DRIVER
INSTRUCTIONAL PROGRAM

TRAINEE GUIDE

Edward Copeland, Chairman
Illinois State Board of Education

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State Superintendent of Education

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ILLINOIS SCHOOL BUS DRIVER INSTRUCTIONAL PROGRAM

Trainee Guide

ILLINOIS STATE BOARD OF EDUCATION
EDWARD COPELAND, CHAIRMAN

DONALD G. GILL
STATE SUPERINTENDENT OF EDUCATION

Portions of this instructional program were adapted from School Bus Driver Instructional Program, U.S. Department of Transportation, National Highway Safety Administration, Washington, D.C. 20590, 1974.

GENERAL TABLE OF CONTENTS

		Page
UNIT I:	INTRODUCTION TO SCHOOL BUS DRIVER ROLE AND RESPONSIBILITY	1
UNIT II:	PASSENGER CONTROL	13
UNIT III:	FIRST AID	32
UNIT IV:	DRIVING FUNDAMENTALS	50
UNIT V:	ACCIDENTS AND EMERGENCIES	81
UNIT VI:	DETECTING HAZARDS	99

UNIT I

INTRODUCTION TO SCHOOL BUS DRIVER ROLE AND RESPONSIBILITY

TABLE OF CONTENTS

A. OVERVIEW 2

B. LAWS 4

C. RULES AND REGULATIONS 9

D. REVIEW QUESTIONS 12

OBJECTIVES

By the end of this unit, you should be able to understand:

1. Laws pertaining to qualifications of a school bus driver.
2. Laws concerning operation of the school bus.
3. Rules and regulations for operating a school bus.

A. OVERVIEW

There is a great deal you need to know about yourself, your responsibilities, and those with whom you work.

The transportation of pupils to and from school is a necessary part of an educational program. Competent school bus drivers and standard operation of buses must be realized if a safe, efficient, and economical transportation program is to be realized.

Learning to drive a vehicle the size of a school bus is a difficult task, involving knowledge of related information, visual skills, judgments, decisions and accurate responses. The way in which you learn to perform this sort of task will have a marked effect on your on-the-job performance.

1. You are important.

   It is evident that You, the school bus driver, are a very important person with a responsible part to play in our educational system. In most instances, you will be the first representative of the school system to meet the children in the morning and the last to see them at night. While the children are on the bus, their safety is in your hands.

2. You are responsible.

   Like the captain of a ship, the school bus driver is responsible for efficient and economical operation, for the safety of passengers and the vehicle, and for good order and discipline; in short, for operating a "happy ship." You can successfully accomplish this assignment and be respected and appreciated as a person who is performing a difficult and necessary service. You are in a position to have a large influence on a child's attitude toward school.

3. You are a member of the "safety team."

   Perhaps in no other area of education does a local board of education or school administrative staff accept more responsibility for student life and welfare than during the mass movement of children in school transportation vehicles on the public highways, streets, and roads of your state. Therefore, as a member of the "safety team," it appears essential not only to provide adequate equipment, but to constantly strive to improve operational safety and efficiency.

Rules and Regulations

Regulations established by the Illinois State Board of Education cover the following specific requirements relating to physical and operational aspects of the school bus driver's role:

1. The character and habits of a school bus driver shall be considered as carefully as those of a teacher. Drivers shall be selected for dependability, good habits, unquestionable character, and a complete willingness to follow, unfailingly, the requirements of the regional superintendent and the school board of district superintendent.

2. Personal appearance is important and therefore each driver is required to be clean and neat.

3. The driver is not permitted to smoke when transporting pupils, or while on the bus.

4. The driver shall abstain from the use of intoxicating liquors and alcoholic beverages when transporting pupils, and will not report for work with any indication of alcoholic intake.

5. The driver must comply with the Rules and Regulations for Pupil Transportation.

6. The school bus driver must meet all physical standards set forth on the Annual Health Certificate for Illinois School Bus Drivers.

7. Each school bus driver must meet statutory requirements.

Training

The driver is required to insure that training requirements have been met within the time allowed by law. The initial training course must be successfully completed within 45 school days of the date the school bus driver's permit is issued. Refresher training, administered by the regional superintendent, is required each year thereafter.

The driver is covered by the initial training, received in the first 45 days, for a period of one year and must attend a refresher course scheduled by the regional superintendent sometime in each of the following years.

The School Bus Driver's Permit

The School Bus Driver's Permit is issued by the regional superintendent of schools for the county in which application is initiated. Possession of this document is requried, by law, before any individual may operate a school bus to transport pupils in Illinois. This document is issued in addition to the Illinois Driver's License. The Illinois Driver's License is issued by the Secretary of State; and possession of a valid driver's license is required to operate a specified class vehicle in Illinois.

In cases where a currently employed school bus driver terminates employment in one county and desires employment in another during the year for which the permit is valid, the driver is responsible for insuring that the ncessary records are forwarded to the county in which employment is desired. Where the permit is valid, no additional fee is required.

How to Reapply for a School Bus Driver's Permit

It will not be necessary for CURRENT SCHOOL BUS DRIVERS to be retested at the Driver's License Examination Station, IF not more than (30) days have elapsed since the last permit expired, unless an upgrade of license is necessary.

1. An individual reapplying for a School Bus Driver Permit must complete the Application for Illinois School Bus Driver's Permit. Write "reapplication" in Section II of this form.

2. The individual reapplying must complete all of Part A of the Annual Health Certificate for Illinois School Bus Driver AND Part B must be completed by the driver's physician.

3. After steps 1 and 2 (above) have been completed, bring or mail the forms to the regional office of education. Section III will be completed by the regional superintendent's office. Present the "Driver's Copy" of your last School Bus Driver's Permit at this time.

4. You must complete refresher training scheduled by the regional superintendent each year.

5. A two dollar ($2.00) fee is required to re-issue a valid permit. Your new permit will normally expire one (1) year from date of issuance.

You should be aware of the tremendous importance of this job. You should realize the trust and faith parents and school personnel have in you. Unless someone has driven a school bus they can never know some of the frustrations you experience almost daily. If situations arise where you need help in dealing with them let the proper school administrator know the situation.

B. Laws

1. School Bus (Illinois Revised Statutes, Chapter 95½, paragraph 1-182). "School Bus" means every motor vehicle, except as provided in the following paragraph, owned or operated by or for any of the following entities for the transportation of persons regularly enrolled in any such entity as students in grade 12 or below in connection with any activity of the entity: a school operated by a religious institution or a public or private nursery, primary, secondary or parental school.

(a) This definition does not include the following:

(1) a bus operated by a public utility, municipal corporation or common carrier authorized to conduct local or interurban transportation or passengers when such bus is on a regularly scheduled route for the transportation of other special trips or in connection with special events or for shuttle service between attendance centers or other educational facilities and not over a regular or customary school bus route;

(2) a motor vehicle designed for carrying not more than 9 passengers which is not registered as a school bus under Section 3-808.

2. School Bus Driver's Permit (Illinois Revised Statutes, Chapter 95 1/2, Section 6-104, paragraph (d)) requires that no person shall drive a school bus, or any vehicle owned or operated by or for a public or private school, or a school operated by a religious institution, where such vehicle is being used over a regularly scheduled route for the transportation of persons enrolled as a student in grade 12 or below, without possession of a valid School Bus Driver's Permit. The requirements necessary to obtain a School Bus Driver's Permit are lsted in Illinois Revised Statutes, Chapter 95 1/2, Section 6-106.1.

Upon proper application and payment of the rquired fee in the amount of $2.00, a School Bus Driver's Permit shall be issued, as prescribed by the Illinois State Board of Education, by the regional superintendent of schools for the county in which application is initiated, to each applicant who meets the following requirements:

(1) is 21 years of age or older;

(2) has a valid and properly classified driver's license issued by the Secretary of State;

(3) has held a valid driver's license, which has not been revoked or suspended for one or more traffic violations, for three consecutive years immediately prior to the date of application;

(4) has successfully passed a written test administered by the Secretary of State of school bus operation, school bus safety and special traffic laws relating to school buses as the Illinois State Board prescribes, and that a review of each applicant's driving habits will be completed by the Secretary of State at the time the written test is given, and when the results of this review indicate that the applicant is not in compliance with paragraph (9) and (10) of the section, there will exist imminent cause for failure of the written test;

(5) has demonstrated the ability to exercise reasonable care in the operation of school buses in accordance with such standards as the State Superintendent of Education prescribes;

(6) demonstrates physical fitness to operate school buses by submitting the results of a medical examination conducted by a license physician within 90 days prior to the state of application according to standards promulgated by the Illinois State Board of Education;

(7) has not made a false statement or knowingly concealed a material fact in any application for permit;

(8) has enrolled in an initial classroom course in school bus driver safety as prescribed by the Illinois State Board, to be completed within 45 school days; and after satisfactory completion of said initial course an annual refresher course; such courses and the agency or organization conducting such courses shall be approved by the Illinois State Board; failure to complete the initial classroom course within 45 school days, or to satisfactorily complete the annual refresher course, shall result in suspension of the permit until such course is completed;

(9) has not been convicted of more than two offenses against traffic regulations governing the movement of vehicles within one year of the date of application provided, however, that the regional superintendent may issue a permit to an applicant who has been convicted of two such offenses within one year if, after a hearing, the regional superintendent finds that the violations do not demonstrate careless or reckless driving habits which may endanger the life of safety or any of the driver's passengers;

(10) has not been convicted of reckless driving, driving while intoxicated, manslaughter or reckless homicide resulting from the operation of a motor vehicle within three years of the date of application; and

(11) has never been convicted of murder, rape, deviate sexual conduct or assault, indecent liberties with a child, contributing to the sexual delinquency of a child, indecent solicitation, public indecency, aggravated incest, prostitution, pimping, obscenity, handling of harmful materials, burglary, theft, battery or assault, compelling membership in an organization, possession, sale or exchange of instruments adapted for illegal drug use or abuse, abortion, possession of a deadly weapon, armed violence, criminal usury, juice racketeering, looting, selling or renting or transferring any air rifle illegally to a child, window peeping, illegal manufacture, possession, sale or delivery of controlled substances, and has never been adjudicated a sexually dangerous person.

(12) has not been repeatedly involved as a driver in motor vehicle collisions or has not been repeatedly convicted of offenses against laws and ordinances regulating the movement of traffic, to a degree which indicates lack of ability to exercise ordinary and reasonable care in the safe operation of a motor vehicle or disrespect for the traffic laws and the safety of other persons upon the highway;

(13) has not, through the unlawful operation of a motor vehicle, caused an accident resulting in the death of any person; or

(14) has not, within the last 5 years, been adjudged to be afflicted with or suffering from any mental disability or disease.

If, however, the regional superintendent determines that for at least five years after conviction for any of the above offenses such person has led an exemplary life and become a law-abiding citizen, the regional superintendent may issue a School Bus Driver's Permit.

A School Bus Driver's Permit shall normally be valid for one year from date of issuance. It shall not be re- newable, but a new permit shall be issued upon compliance with this section. The regional superintendent may extend the permit period up to a maximum of 30 days in instances of emergency.

A School Bus Driver's Permit shall contain the holder's driver's license number, name, address, zip code, social security number, date of birth, a brief description of the holder and a space for his or her signature. The Illinois State Board may at its discretion include a suitable photograph of the holder.

The regional superintendent shall forthwith revoke a School Bus Driver's Permit whenever the Secretary of State has revoked or suspended the holder's driver's license and whenever the regional superintendent receives notice that the holder has been convicted of any offense listed in subparagraph (10) and (11) of the requirements necessary to obtain a School Bus Driver's Permit. The regional superintendent shall forthwith suspend or revoke a School Bus Driver's Permit upon receiving notice that the holder has been convicted in accordance with subparagraph (9) of the requirements to obtain a permit. If such action is taken, the holder shall be entitled to a hearing conducted by the regional superintendent.

3. Operation of the school bus:

A. Railroad Crossings (Illinois Revised Statutes, Chapter 95 1/2, Section 11-1202, (d)):

All school buses shall stop at all railroad crossings when carrying passengers except at any railroad grade crossings located upon a 4-lane highway where posted speed limit is in excess of 45 miles per hour or any railroad grade corssing at which traffic is controlled by a police officer or human flagman.

B. Stopping, loading and discharging passengers on highways having four or more lanes (Illinois Revised Statutes, Chapter 95 1/2, paragraph 11-1415):

A school bus traveling on a highway having four or more lanes for vehicular traffic shall stop for the loading or discharing of passengers only on the right side of the highway. This section shall not apply when children are escorted by competent persons designated by the school authorities or by law enforcement officers.

C. Passengers boarding or exiting a school bus (Illinois Revised Statues, Chapter 95½, paragraph 11-1423):

(a) At all pick-up points where it is necessary for a school bus passenger to cross the roadway to board the bus, the school bus driver shall signal the awaiting passenger when it is safe to cross the roadway ahead of the bus.

(b) At all discharge points where it is necessary for a school bus passenger to cross the roadway, the school bus driver shall direct the passenger to a point approximately 10 feet in front of the bus on the shoulder and shall then signal the passenger when it is safe to cross the roadway.

D. Flashing signal lamps (Illinois Revised Statutes, Chapter 95½, paragraph 11-1414 (c) and (d)):

(c) The alternately flashing red signal lamps of a 4-lamp or 8-lamp flashing signal system required by Section 12-805 shall be actuated after the school bus has come to a complete stop for the purpose of loading or discharging pupils and shall be turned off before starting out again. The red signal lamps shall not be actuated at any other time except as provided in subsection (d) of this Section.

(d) The alternately flashing amber signal lamps of an 8-lamp flashing signal system, or the alternately flashing red signal lamps of a 4-lamp flashing signal system, required by Section 12-805 shall be actuated continuously during not less than the last 100 feet traveled by the bus before stopping for the purpose of loading or discharging pupils within a business or residential district and during not less than the last 200 feet traveled by the bus outside a business or residential district. The amber signal lamps shall remain actuated until the bus is stopped. The amber signal lamps shall not be actuated at any other time.

E. Stop Arm (Illinois Revised Statutes, Chapter 95½, paragraph 11-1414(b)):

(b) Stop signal arm shall be extended after the school bus has come to a complete stop for the purpose of loading or discharging pupils and shall be closed before the bus is in motion. The stop signal arm shall not be extended at any other time.

F. Seat belt for driver (Illinois Revised Statutes, Chapter 95½, paragraph 12-807). Each school bus shall be equipped with a retractable lap belt assembly for the

driver's seat. No school bus shall be operated unless the driver is properly restrained with the lap belt assembly.

4. Miscellaneous:

Approaching, overtaking, and passing a school bus (Illinois Revised Statutes, Chapter 95 1/2, paragraph 11-1414 (a) and (e)):

(a) The driver of a vehicle upon a highway upon meeting or overtaking, from either direction, any school bus which has stopped on a highway for the purpose of receiving or discharging pupils shall stop the vehicle before reaching the school bus when there is in operation on the school bus a visual signal and the driver shall not proceed until the school bus resumes motion or the driver of the vehicle is signaled by the school bus driver to proceed or the visual signals are no longer activated. The Secretary of State shall suspend for thirty days the driver's license of any driver convicted of violating this subsection.

(e) The driver of a vehicle upon a highway of which the roadways for traffic moving in opposite directions are separated by a strip of ground which is not surfaced or suitable for vehicular traffic need not stop the vehicle upon meeting or passing a school bus which is on the opposite roadway; and need not stop the vehicle when driving upon a controlled access highway when a school bus is stopped in a loading zone adjacent to the surfaced or improved part of the controlled access highway where pedestrians are not permitted to cross such controlled access highways.

C. Rules and Regulations for Operating a School Bus

1. School buses must be operated in accordance with all legislative acts, Illinois State Board Rules and Regulations and Illinois Department of Transportation Rules and Regulations.

2. Each driver shall conform with the Illinois Department of Transportation's pre-trip inspection requirement.

3. The service door shall be closed at all times when the bus is in motion.

4. Windows shall not be lowered below the stop line painted on the body pillar.

5. The emergency door shall be unlocked but securely latched when operating the school bus.

6. The driver shall not leave the bus while the motor is running.

7. The gasoline tank shall not be filled while there are any persons on the bus or while the motor is runing.

8. The "School Bus" signs shall be displayed only when the bus is being used for official school transportation.

9. The required alternately flashing warning lights and stop arm shall be used only when stopping to receive or discharge students.

10. The manufacturer's capacity for a bus shall not be exceeded.

11. All passengers shall be seated when the bus is in motion.

12. Students shall not be asked to leave the bus along the route for breach of discipline, nor shall they be asked to sit anywhere other than on a seat for breach of discipline.

13. Gross disobedience or misconduct on the part of a student shall be reported to the proper school authority for appropriate disciplinary action.

14. The driver shall not back a bus at the school while students are in the vicinity, unless a responsible person is present to guide the bus driver.

15. Loading -- When children are picked up in the morning and must cross the roadway, the driver shall beckon them to cross the road when it is safe to do so. The student shall be instructed to wait for the proper signal to cross the roadway when traffic conditions are such that they may go ahead of the bus.

16. The driver on a regular route shall not be expected to wait for a tardy student but may proceed on a timely route if the student is not in sight. The driver should be seldom late and never early.

17. Unloading -- At school, the bus shall be driven into the school grounds to discharge pupils or they should be discharged so they will not have to cross the street. At all discharge points where it is necessary for pupils to cross the roadway, the driver shall direct the students to a distance at least 10 feet in front of the bus on the shoulder of the highway and to remain there until a signal is given by the bus driver for the students to cross.

18. The driver shall not allow a student to get off the bus at any place other than the student's designated discharge point unless permission is granted by the proper school official.

19. The driver shall transport no animals with school children without permission of school authorities. The animal must be properly confined at all times on the school bus.

20. The driver shall not permit a weapon or explosive of any kind on the bus.

21. In case of an accident or breakdown while the bus is transporting students, the first consideration shall be whether it is safer to evacuate or leave the students on the bus.

22. All accidents shall be reported, immediately, to the appropriate school official.

23. A copy of the Illinois Department of Transportation's "Motorist Report of Motor Vehicle Accident Form" (SR-1) shall be forwarded immediately to the regional superintendent in case of an accident.

24. When stalled on the highway or shoulder of the highway, place appropriate signals as outlined in the Illinois Secretary of State's publication, Illinois Rules of the Road, under the heading "Disabled Vehicles."

25. The driver shall not smoke or be under the influence of intoxicating beverages or drugs when operating a school bus.

26. While carrying passengers, the driver shall stop at all railroad crossings except on a four lane highway with speed limits in excess of 45 miles an hour, or where the grade crossing is protected by a human flagman or law enforcement officer.

    a. The driver shall stop between 15 and 50 feet of the first rail. While stopped, open the service door, listen and look in both directions for any approaching train. When the driver determines that no train is approaching, close the door, then proceed completely across the grade crossing in low gear.

    b. The driver shall not change gears while crossing the tracks.

    c. The driver shall not use the alternately flashing warning signals or stop arm at railroad grade crossings.

27. The driver's seat belt shall always be properly fastened before putting the bus in motion.

UNIT I

D. REVIEW QUESTIONS

Check whether these statements are True or False:

1. The maintenance staff is responsible for conducting a pre-trip inspection of each school bus daily. T F

2. All passengers must be seated when the bus is in motion. T F

3. The stop arm is to be used at railroad crossings. T F

4. When unloading, students should cross the road behind the bus. T F

5. It is permissible to have the emergency door locked when operating the school bus should you feel it necessary. T F

6. Do not allow pupils to get off the bus at any place other than the designated discharge point unless permission has been granted by the district superintendent. T F

7. You should never smoke or use intoxicating liquors and alcoholic beverages when operating a school bus. T F

8. Under what conditions may an applicant be issued a permit if the driving record shows two offenses against traffic regulations governing the movement of vehicles?

9. Explain in detail the legal procedure for approaching and proceeding across a railroad crossing.

10. Explain when the eight lamp warning system is to be used.

11. Explain the procedure a school bus driver must follow to reapply for a school bus driver's permit.

12. What action would you take if the number of students on the bus exceeded the capacity limit?

UNIT II

PASSENGER CONTROL

TABLE OF CONTENTS

A. OVERVIEW 14

B. LOADING PROCEDURES 14

C. UNLOADING PROCEDURES 18

D. IF YOU HAVE SAFETY PATROLS 18

E. GENERAL RULES FOR STUDENT CONDUCT 19

F. DRIVER'S RESPONSIBILITY FOR DISCIPLINE 23

G. STUDENT MANAGEMENT 24

H. WHEN YOU HAVE DISCIPLINE PROBLEMS 28

I. REPORTING DISCIPLINE PROBLEMS 28

J. REVIEW QUESTIONS 29

OBJECTIVES

By the end of this unit, the students should be able to:

1. List the procedures for controlling the bus and students during loading and unloading.

2. Describe general rules of student conduct and discipline procedures.

3. Identify types of disorder requiring immediate attention and describe procedures for controlling them.

4. Report student control problems.

A. OVERVIEW

You are responsible for the health, safety, and welfare of the students who ride your bus. To keep them safe, you must be able to control them as well as you control the bus. But students aren't always as predictable as your vehicle. In this unit, you'll learn how to control your bus and your passengers:

1. During loading and unloading.

2. During the ride.

3. In cooperation with school officals and parents.

One of the most important maneuvers you make is the loading and unloading of students. Experience shows that this is a point where students and drivers are exposed to many hazards. Therefore, you must do it a certain way to prevent accidents.

You must learn proper procedures for controlling traffic, for crossing pupils, for loading and unloading pupils, and for the proper seating of children.

First consider the equipment on the bus necessary to accomplish these purposes.

B. LOADING PROCEDURES

A typical stopping and loading procedure is:

1. Activate the prewarning.

2. When approaching the designated stop, start slowing down in preparation for the stop.

3. Apply brakes hard enough to light up the brake lights so that vehicles following will have an indication you are about to stop.

4. Check all mirrors to see that traffic is clear and it is safe for you to stop.

5. Approach students with extreme care, giving due consideration to the surface on which you are going to stop: dry, slippery, dips sharply to the right, rough ground, etc.

6. If possible, do not pull up any closer than 3 feet from the waiting students.

7. Place transmission in neutral.

8. Open the front door when you are ready to board the students. They should be trained not to move toward the bus until the door opens.

9. Have students go directly to their seats as prescribed by local district policy.

10. Check to make sure students are properly seated, then prepare to close the front door.

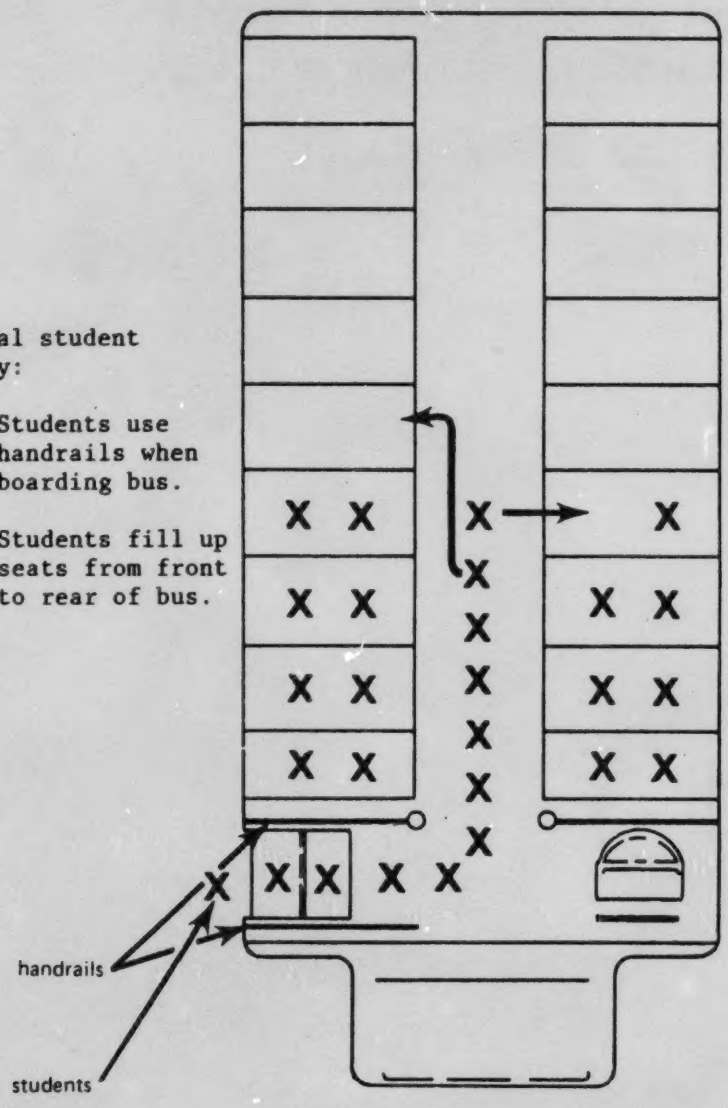
11. Check traffic and deactivate red flashing warning lights.

12. Check traffic, use mirrors; turn on left turn signal and when safe, pull back into the lane of traffic; cancel turn signal; retain road speed; and proceed to your next stop.

a. Typical student policy:

(1) Students use handrails when boarding bus.

(2) Students fill up seats from front to rear of bus.



Typical Seating Policy

b. Angel Seating Policy:

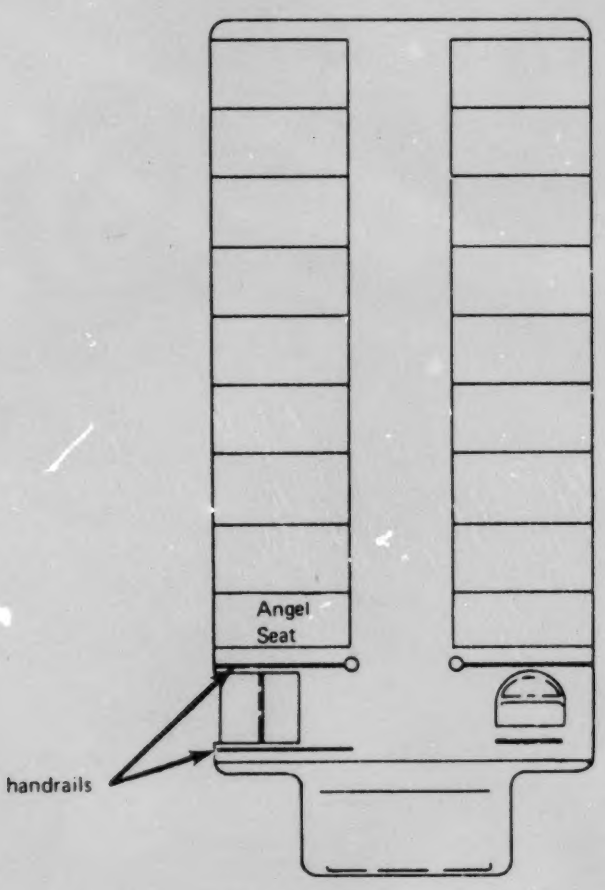
(1) Students use handrails when boarding bus.

(2) Students fill up seats from front to rear of bus, but they leave the front seat opposite the driver (the "Angel Seat") vacant for the last two students who board at each stop.

(3) At next stop, the students in the angel seat get up and take another seat toward the rear.

(4) The last two students to board again sit in the angel seat.

(5) When unloading, the process is reversed; the last two to get off at the next stop sit in the angel seat. As the seat is vacated, two students who get off at next stop move up to the angel seat.



C. UNLOADING PROCEDURES

Unloading students poses added problems; problems especially on the return trip home. Follow the LOADING procedure with these additions:

1. You are responsible for the safety of all students crossing the roadway, regardless of their grade level.

2. Give the motoring public a chance to react to the flashing red warning lights. In most cases, you shouldn't allow students to get off the bus until passing cars have stopped.

3. Students who must cross the road should line up in front of the bus (approximately 10 feet) and look up at you; no one should be beyond the left front fender.

4. You must check traffic in both directions before allowing students to cross the roadway.

5. While performing this operation, remember that you are not a traffic officer, and have no rights other than a regular motorist. In other words, do not signal any motorist to do anything. If a driver of a motor vehicle violates the red light law, write down and turn in the driver's license number to the transportation supervisor or to the appropriate law enforcement agency if local school district policy dictates this action.

6. Wait until it is safe for students to cross and then give them a prearranged signal.

7. When students have safely crossed the road, immediately cancel the red flashing warning lights to allow stopped traffic to move on.

8. Activate left turn signal and check rearview mirrors before pulling back onto the roadway.

When unloading students on school ground, the stops should be situated so students get off on the school side. Discuss with class how the above procedures can be modified if students must cross school driveway that has other buses or passenger cars in motion.

D. IF YOU HAVE SAFETY PATROLS

You may have a well-trained safety patrol assigned to your bus.

There is no age requirement for a bus patrol, but one should be at least 12 years of age.

PATROL DUTIES:

1. The function of a safety patrol is not to stop or direct traffic.

2. The safety patrol should direct pupils in loading and unloading and should aid small pupils in getting on and off bus.

3. The most important duty of the safety patrol is to direct pupils across road or highway safely, if they must cross. The patrol member should stand in front of the left front fender of bus with arms outstretched in a perpendicular position to the front of the bus. Students should wait behind the patrol's arms until it is safe to cross road or highway. When you signal the patrol that it is safe for pupils to cross, the patrol lets students cross.

4. The safety patrol should remain alert and should warn you of any apparent danger of which you are not aware.

The safety patrol should be furnished a badge, belt, and/or other means of identification.

YOUR DUTIES:

You must direct the activities of the bus safety patrol, as follows:

1. Direct one member of bus patrol to enter the bus first and supervise seating of the other students.

2. Direct other patrol member(s) to supervise the orderly loading of the students from the roadway or loading zone.

3. If seat belts are used for passengers, assign to the bus patrol members the responsibility of checking that the seat belt is securely fastened.

4. Observe bus patrol members directing students who must cross a roadway. Check traffic and indicate to patrol that the way is clear.

5. Direct one bus patrol member to sit near the emergency door of the bus.

E. GENERAL RULES FOR STUDENT CONDUCT

Certainly it cannot be denied that your passengers are affected by the school transportation program. Their experiences on the bus -- good and bad -- become a part of their education.

This is an aspect of public school transportation which has not received the attention which it deserves. You can do much to control students for their safety and yours.

DESIRABLE STUDENT CONDUCT

The following are the rules and regulations for school bus riders in Illinois.

1. Be on time at the designated school bus stop; help keep the bus on schedule.

2. Stay off the road at all times while waiting for the bus.

3. Be careful in approaching the place where the bus stops. Do not move toward the bus until the bus has been brought to a complete stop and the door has been opened.

4. Do not leave your seat while the bus is in motion.

5. Be alert to a danger signal from the driver.

6. Remain in the bus in the event of a road emergency until instructions are given by the driver.

7. Keep hands and head inside the bus at all times. Do not throw anything out of the bus windows.

8. Remember that unnecessary confusion diverts the driver's attention and could result in a serious accident.

9. Be absolutely quiet when approaching a railroad crossing.

10. Treat bus equipment as you would valuable furniture in your own home. Never tamper with bus or any of its equipment.

11. Assist in keeping the bus safe and sanitary at all times.

12. Carry no animals on the bus without permission of the school transportation director and the superintendent, and/or the principal.

13. Keep books, packages, coats, and all other objects out of the aisles.

14. Leave no books, lunches, or other articles on the bus.

15. Be courteous to fellow pupils and the bus driver.

16. Help look after the safety and comfort of smaller children.

17. Do not ask the driver to stop at places other than the regular bus stop. The driver is not permitted to do this, except by proper authorization from a school official.

18. Observe safety precautions at discharge point. Where it is necessary to cross the highway, proceed to a point at least 10 feet in front of the bus on the right shoulder of the highway where traffic may be observed in both directions. Wait for a signal from the bus driver permitting you to cross.

19. Observe the same rules and regulations on other trips under school sponsorship as you observe between home and school. Respect the wishes of the chaperone appointed by the school.

Formal classroom behavior need not, of course, be required of pupils in a school bus. An informal atmosphere which encourages pupils to relax and enjoy the ride is desirable. There are, however, certain limits within which pupil activity must be confined. What are these limits?

Your control over pupils should be sufficient to assure that:

1. Students will enter and leave the bus at school loading stations and at highway bus stops in orderly fashion and in accordance with instructions.

   This requires pupils to proceed at all times

   a. without haste and without loitering.

   b. without crowding and without pushing.

   c. with each pupil showing due regard for his/her own safety and the safety of others.

2. Students will remain quiet enough not to distract you.

   Pupils must, at all times

   a. refrain from shouting and other boisterous activty.

   b. refrain from talking to you while the bus is in motion.

   c. be absolutely quiet when approaching a railroad crossing.

   d. show due consideration for you and your problems.

   In general, any activity which worries or distracts you as the driver is objectionable. You need to keep your mind on the driving and on the traffic situation. If you are worried about the activity in the bus, you cannot be a safe driver.

3. Students will remain seated while the bus is in motion.

   a. Each pupil must go directly to a seat upon entering the bus.

   b. Each pupil must remain seated until the bus has stopped.

4. Observe safety precautions at discharge point. Where it is necessary to cross the highway, proceed to a point at least 10 feet in front of the bus on the right shoulder of the highway where traffic may be observed in both directions. Wait for a signal from the bus driver permitting you to cross.

5. Students will neither purposely nor carelessly destroy property.

   Transportation equipment represents a large capital investment. Pupils can be expected to cooperate in its maintenance and preservation.

   a. Orderly behavior in the bus, at all times, is essential. Roughhousing is not only hard on seats and interior finish, it also makes it difficult for you to drive safely.

   b. Pupils should keep feet off the seats.

   c. Pupils should keep sharp objects off the upholstery.

   d. Assist in keeping the bus safe and clean at all times.

6. Students will not extend arms or other parts of body out through windows.

   a. It is important that no object protrude through an open window.

   b. Pupils should leave windows alone. You should attend to ventilation.

7. Students will not throw objects about in the bus or out through windows.

   a. Waste paper and other refuse may not be scattered along the highway. Provision should be made inside for such material and it should be disposed of at end of trip.

   b. Books and other property should be properly stowed on laps.

   c. Leave no books, lunches, or other articles on the bus.

   d. The aisle should be clear.

   e. Shooting "paper wads" or other material in the bus is not permissible.

In addition to items listed above, you should instruct and encourage students to:

1. Follow your instructions promptly and cheerfully.

2. Be on time at the bus stop location.

3. Be on time at the school loading station.

4. Avoid playing or loitering on the highway when waiting for a bus which is late.

5. Follow correct safety procedures when walking on the highway to and from a bus stop. In some instances, pupils must meet a school bus some distance from the home driveway. Procedures for walking on the highway should be clear to pupils.

6. Refrain from smoking while on the bus.

7. Avoid eating or drinking on the bus.

F. DRIVER'S RESPONSIBILITY FOR DISCIPLINE

All rules and regulations concerning student behavior should be well known and clearly understood by:

1. Bus drivers

2. Students

3. Parents

Obviously, you cannot be solely responsible for proper student behavior. Teachers should have direct responsibility for training and instructing transported pupils. Teachers, as well as bus drivers, should supervise loading stations at the school grounds.

Mimeographed lists of rules and regulations covering pupils' behavior should be prepared by the administration and distributed to pupils and parents. However, a mimeographed list is not adequate as a means of instruction by itself. Pupils cannot be expected to react to printed materials covering rules affecting their behavior without establishing a basis of interaction for acceptable communication covering not only how the pupil should act, but why a particular action is necessary.

Illinois Statutes require instruction at least twice during each year in safe bus riding practices including emergency evacuation drills. Student safety assemblies can be an effective approach toward the motivation of safety awareness on the school bus. The school bus drivers should encourage the administration to allow them to visit the classroom for establishing a line of communication between the school

bus drivers and the pupils in order for them to understand why they should comply with the rules and regulations for safe bus riding practices.

You must, of course, accept responsibility for supervising and controlling pupils out on the route. You cannot escape the fact that you are in charge. Establish and discuss acceptable discipline procedures.

G. STUDENT MANAGEMENT

As a potential bus driver, you are by now aware of the need to understand and properly manage the students under your care. Although your main function is to carry the pupils to their destination and discharge them safely, it is of paramount importance that you have some basic understanding of individual human behavior patterns and their effect on others. Following are some basic points of information and assumptions that will assist you in better understanding your students and hopefully provide the basis for establishing honest and trusting relationships with them.

Some basic assumptions:

1. Behavior patterns are learned and therefore can be unlearned or changed.

2. Attitudes are learned and therefore can be unlearned or changed.

3. Children psychologically seek limits or controls; they expect them and look to adults for guidance concerning these limits.

4. Each student is an individual and therefore different with a unique set of strengths and weaknesses.

5. Every child has the potential for learning.

6. Praise and other forms of positive reinforcement produce better long-range results than does punishment or discouragement.

These basic assumptions about human behavior and human potential are necessary for you to adopt in order to deal successfully with children under any situation. These assumptions should form the basic attitudes and values upon which you build your relationships with the students you serve.

The keys to behavior and attitudinal management are threefold:

a. Consistency in action and follow-through.

b. Positive response to appropriate behaviors rather than positive or negative response to inappropriate behaivor.

c. Modeling (behaving) yourself as you wish others to behave.

Given the initial assumptions and these three keys to act upon them with, you are ready to implement appropriate student management.

Implementation:

Remember that behavior is learned. Some of that behavior is appropriate in your situation and within the limits or rules you have cooperatively set with the students. Some of that learning behavior is not appropriate. What is important for you, from the beginning, is to discriminate which behaviors are appropriate and which are not, and then to establish a consistent pattern and attitude for yourself to deal with both.

The easiest way to deal with all of this is to begin by establishing the limits or rules that will govern the environment of your school bus. Remember, most children seek limits and expect them, but children will also test those limits or rules first to see if they really mean what they say.

Begin establishing your limits for acceptable and non-acceptable behavior from the beginning, the first afternoon that you have all your students on the bus (repeat this process each night for the first 3 or 4 nights and then periodically once a month or so). You have a choice, however; you can impose these limits in an authoritarian manner or you can explain your role, the limits and the responsibility that all of you have for them as well as why they are necessary (i.e., the safety aspect). You will definitely get the best result with the latter. Encourage questions from the students. They will want to understand; give them that opportunity. When students do understand or ask important questions, praise them for their participation and attention.

You will probably not get through everything the first or even the second night since you will only be spending about 10 minutes in dialog with the children each night. However, you will have a whole school year to build an open and trusting relationship with the children..

Limits and how to use them:

First, limits for behavior should be developed cooperatively with the students. They will have suggestions. Listen to them and write them down along with yours. Limits should not be tyrannically imposed. If they are, this will only breed defiance and you will have to live with it.

Second, the limits or rules should be specific, not general, and must deal with specific behavior. (i.e.: "Standing in the aisle while the bus is moving could cause you serious injury if I have to stop suddenly." Versus "You all have to be good.")

Third, limits or rules should be stated in a positive rather than a negative way. (i.e.: "It is helpful to me if you will talk in a normal tone of voice." Versus, "Don't yell, scream and make a lot of racket.")

Fourth, limits that you develop cooperatively should be posted in a conspicuous place on the bus where they can be referred to with ease by all involved.

Fifth, review the limits periodically with the students and praise them, pointing out specific situations when they acted appropriately as a group and also individuals who acted appropriately. Even the child who often violates the limits doesn't do it all of the time.

Remember that every child has the potential for learning and that a child learns most rapidly with praise. Inappropriate behavior can be ignored for the most part simply by focusing on positive or appropriate behavior. It takes less energy to reinforce a positive behavior than to engage a negative one. When an inappropriate behavior occurs, ignore it and look for a student who is exhibiting the opposite appropriate behavior (i.e.: sitting down versus standing up; talking normally versus yelling; keeping hands to self versus hitting or pushing others. Praise the approrpriate behavior and name the student who is exhibiting it loudly enough so that the student who is misbehaving can hear it.

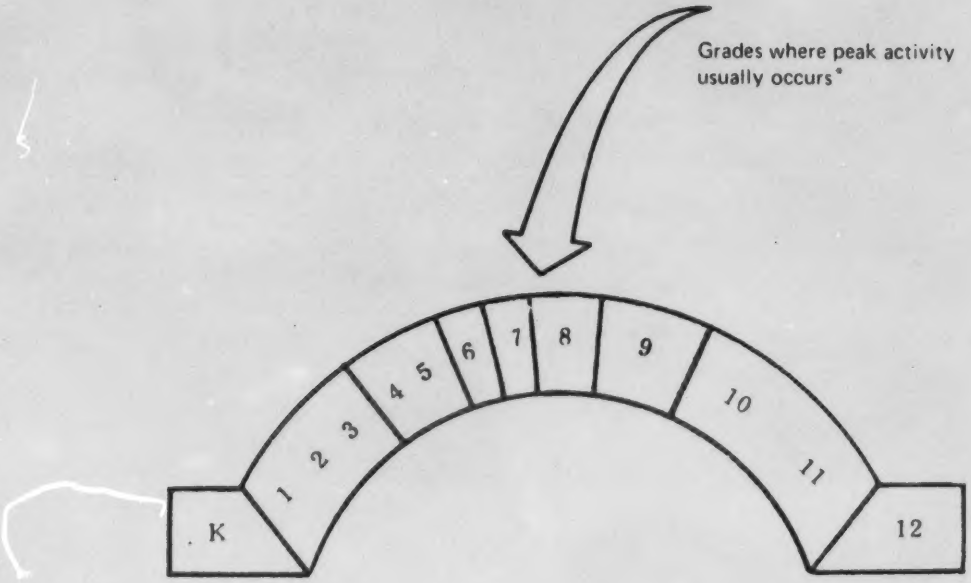
If a student is exhibiting an inappropriate or negative behavior that possibly could bring injury to him/her or another student, then deal with it calmly by pointing out the written/posted limit, the fact that it was established cooperatively and the position that the inappropriate behavior puts both you and the student in. Never do this while the bus is moving; wait until the next stop. When the student stops exhibiting the inappropriate behavior, immediately praise him/her for the new appropriate behavior; don't wait -- remember, you are teaching.

How you handle behavioral situations, both appropriate and inappropriate, will be watched closely by the students for consistency, fairness, understanding, etc. This is called modeling on your part. "Act and you shall receive." If you yell, expect yelling back, if not at you then at someone else. If you praise, expect it to be picked up by others. Expect and encourage discussion and openness with the students and you will get it. Expect trouble because "kids don't know how to behave" and you'll get it.

Your attitude toward given situations and your interactions with persons govern your behavior and directly or indirectly affect the attitudes and behaviors of others. You have control over your attitudes and behavior but you do not have control over those of others. However, you can influence the attitudes and behavior of others through the establishment of a trusting, honest and open relationship with the individuals whom you provide services for. Consistency, positive response and modeling are the keys to this relationship. Your attitudes towards children are the basis upon which the relationship is built.

Strive to build morale and cooperation in your busload. This can be done by being friendly, courteous, and helpful. In the course of time, the pupil morale will be a great source of help in controlling pupils who are the worst offenders. When pupils discover that improper

conduct is not acceptable to the group, offenders will hesitate to do things which cause them to lose "face" with the group. One of the best approaches to building pupil morale is to give the pupils a chance to participate in drafting the rules and regulations for maximum safety on the school bus. Practice all approaches which create better driver-pupil relationships.



Behavior Curve Showing Grade Levels and Student Activity Tendency

H. WHEN YOU HAVE DISCIPLINE PROBLEMS

You must maintain order on your bus. Keep in mind the following simple rules:

1. Stop the bus if the behavior problem is a serious one. If it is a minor infraction, a word of warning over the speaker system (if available) or a remark directed to the offender may be enough. If the infraction is more serious in nature, stop the bus. The fact you have taken this action makes the pupils realize the situation is one that is out of the ordinary.

2. Stand up and speak to the offenders in a courteous manner but in a firm voice. Don't show anger, but all pupils must realize you "mean business."

3. If a change in seating is needed, move the pupil in a seat near the driver so you can more closely observe the behavior.

4. You have no legal right to put a pupil off the bus except at the pupil's regular bus stop or at the school. However, if an emergency situation develops in which you feel very drastic action is needed, stop the bus and send a responsible pupil or adult to notify the supervisor or principal of the happening. Do not start the bus until one of these persons has responded to your call. You, alone, cannot deny the pupil the right to be picked up in the morning; check with your supervisor or principal regarding the proper procedure for you to follow.

a. FIST FIGHT;
b. COLLAPSE OF STUDENT DUE TO ILLNESS, DRUGS, OR ALCOHOL;
c. SMALL FIRE, EXPLOSION, OR SIMILAR ACT OF VANDALISM.)

I. REPORTING DISCIPLINE PROBLEMS

You are responsible for the conduct of pupils on your bus, but you must have the backing of the school administration to effectively discharge this responsibility. In cases of continued misconduct, report the pupil to the supervisor or principal and ask that some action be taken toward withdrawing the pupil's right to ride the school bus.

In many school districts, the first action taken is a reprimand or a withdrawal of bus privileges for a short time. If the pupil's behavior does not improve upon returning, the pupil may be denied the right to ride the bus for a longer period or may be transfered to another bus. This is usually done after all other measures have failed to improve the situation.

UNIT II

J. REVIEW QUESTIONS

Check whether the statement is mostly True or False.

1.	A parent or teacher relieves the driver of half of the responsibility for student behavior.	T F
2.	Being liberal in your praise when students are on good behavior is a wise move.	T F
3.	Conduct of pupils aboard the bus is the direct responsibility of the principal.	T F
4.	A driver who is lenient gains respect and control over the busload.	T F
5.	The businesslike attitude of the driver has a great deal to do with pupil psychology.	T F
6.	A student who misbehaves on the bus may be kicked off any place the driver feels it is safe.	T F
7.	"Troublemakers" or youngsters likely to misbehave on the bus may often be identified by the way in which other pupils act toward them.	T F
8.	Favoritism is a good way to gain control of your students.	T F
9.	Seat your troublemakers near the center of the bus.	T F
10.	It is good practice for drivers to understand the growth problems as well as behavior patterns of the children in their care even for the short period the drivers will be with them.	T F
11.	Vehicles traveling in both directions on an undivided highway must stop for a school bus which is loading or unloading passengers.	T F
12.	After unloading passengers, the driver may proceed as soon as the last student steps on the ground or pavement.	T F
13.	On highways having dual or multiple lanes separated by safety islands, a vehicle overtaking a school bus, which is loading children, has to stop.	T F
14.	Illinois regulations state that there be no standees on school buses.	T F

15. There is no penalty for a motorist who passes a school bus while it is loading or unloading passengers. T F

Briefly describe, in your own words:

1. How you control the bus (including red flashing warning lights) as you approach and stop to load passengers.

2. How you control students as they enter the bus.

3. How you control the bus as you approach and stop to unload passengers.

4. How you control students as they leave the bus.

OPTIONAL QUESTION FOR SYSTEM WITH BUS SAFETY PATROLS:

Briefly descibe the duties of the school bus patrol in supervising the loading process with regard to:

1. Other students

2. The driver

3. Motorists

List three examples of disorders requiring immediate attention and describe the procedure you would use to control each.

DISORDER	PROCEDURE
a.	a.
b.	b.
c.	c.

UNIT III

FIRST AID

TABLE OF CONTENTS

A. OVERVIEW 33

B. BREATHING DIFFICULTIES 34

C. BLEEDING 38

D. SHOCK 40

E. OTHER CONDITIONS 41

F. REVIEW QUESTIONS 47

OBJECTIVES

By the end of this unit, the students should be able to:

1. Set priorities for treating severe injuries.
2. Recognize and treat symptoms of severe bleeding, stoppage of breath, and shock.

A. OVERVIEW

BUS DRIVER SAVES A LIFE

YOUR RESPONSIBILITY TO RENDER FIRST AID

The first objective of first aid is to save life. You must know how to apply the principles of first aid. First aid is the immediate and temporary care given to the victim of an accident or sudden illness until the services of a physician can be obtained. A victim will respond much more readily to treatment realizing that a competent person is administering that treatment. Practicing the procedures in this unit will increase your competence in rendering first aid.

Common sense and a few simple rules are the keys to effective first aid. It is as important to know what not to do, as to know what to do. In case of an emergency, making mistakes could be disastrous to the injured person. You are more likely to act promptly and correctly if you learn only a few simple principles, but learn them well.

Emphasis is placed on problems you may confront on the road. The procedures in this unit include:

1. Evaluation of injury and setting of priorities for treatment
2. Maintenance of airway and respiration
3. Evaluation and treatment of bleeding
4. Evaluation and control of shock

Other first-aid topics that are important but not urgent in the saving of life will be discussed only briefly to provide you with a gengeral knowledge of first aid. Little attention has been given the contents of the first-aid kit and its use, because the most important equipment you have is your knowledge of first aid, not the number and types of splints, bandages, and ointments in the first-aid kit.

Where references are made to bandages or other equipment, use the cleanest materials available but do not delay first aid if clean bandages are not available. However, the first-aid kit should contain a supply of 4" x 4" pads and similar clean bandages for covering wounds and stopping bleeding.

FIRST-AID KIT:

CONTENTS:

LOCATION:

WHERE TO GET NEW SUPPLIES:

This information is similar to that found in the brochure, Recommendations for Temporary Emergency Care in Schools, developed as a cooperative effort between the Illinois Department of Public Health and the Illinois Office of Education.

Priority of Action for All Emergencies

1. Keep calm.

2. Give immediate attention to:

   a. establishing an open airway if this is blocked, and starting mouth-to-mouth resuscitation if the individual has stopped breathing.

   b. stopping bleeding.

   c. treating shock (see fainting).

   d. washing irritant chemicals out of eyes, or off skin or mucous membranes, with large amounts of water. Irrigate continuously for at least several minutes (up to twenty (20) minutes).

3. Where immediate medical attention is indicated, first priority goes to contacting the physician. Otherwise, where possible, contact the school official first. Under no circumstances should a sick child be sent home without the knowledge of the parent, guardian, or other responsible person.

B. Breathing Difficulties

If child is not only unconscious but has stopped breathing, use mouth-to-mounth resuscitation.

1. With the child lying flat on his/her back, tilt the head back and hold jaw up firmly in the jutting-out position to keep tongue from falling back and closing off the airway.

2. Then start mouth-to-mouth breathing, with mouth over student's nose and mouth.

WHEN BREATHING STOPS
SECONDS COUNT
SAVE A LIFE BY ARTIFICIAL RESPIRATION

MOUTH-TO-MOUTH METHOD

1. If foreign matter is visible in the mouth, wipe it out quickly with your fingers, wrapped in a cloth, if possible
2. Tilt the victim's head backward so that his chin is pointing upward. This is accomplished by placing one hand under the victim's neck and lifting, while the other hand is placed on his forehead and pressing. This procedure should provide an open airway by moving the tongue away from the back of the throat.
3. Maintain the backward head-tilt position and, to prevent leakage of air, pinch the victim's nostrils with the fingers of the hand that is pressing on the forehead.

   Open your mouth wide; take a deep breath; and seal your mouth tightly around the victim's mouth with a wide-open circle and blow into his mouth. If the airway is clear, only moderate resistance to the blowing effort is felt.

   If you are not getting air exchange, check to see if there is a foreign body in the back of the mouth obstructing the air passages. Reposition the head and resume the blowing effort.
4. Watch the victim's chest, and when you see it rise, stop inflation, raise your mouth, turn your head to the side, and listen for exhalation. Watch the chest to see that it falls.

   When his exhalation is finished, repeat the blowing cycle. Volume is important. You should start at a high rate and then provide at least one breath every 5 seconds for adults (or 12 per minute).

   When mouth-to-mouth and/or mouth-to-nose resuscitation is administered to small children or infants, the backward head-tilt should not be as extensive as that for adults or large children.

   The mouth and nose of the infant or small child should be sealed by your mouth. Blow into the mouth and/or nose every 3 seconds (or 20 breaths per minute) with less pressure and volume than for adults, the amount determined by the size of the child.

   If vomiting occurs, quickly turn the victim on his side, wipe out the mouth, and then reposition him.

MOUTH-TO-NOSE METHOD

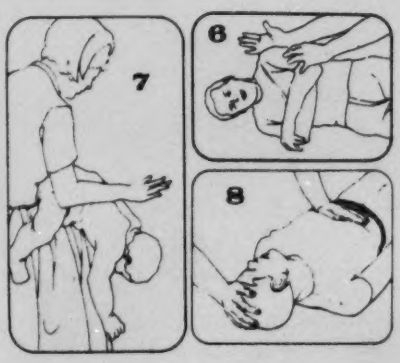
5. For the mouth-to-nose method, maintain the backward head-tilt position by placing the heel of the hand on the forehead. Use the other hand to close the mouth. Blow into the victim's nose. On the exhalation phase, open the victim's mouth to allow air to escape.

RELATED INFORMATION

6. If a foreign body is prohibiting ventilation, as a last resort, turn the victim on his side and administer sharp blows between the shoulder blades to jar the material free.
7. A child may be suspended momentarily by the ankles or turned upside down over one arm and given two or three sharp pats between the shoulder blades. Clear the mouth again, reposition, and repeat the blowing effort.
8. Air may be blown into the victim's stomach, particularly when the air passage is obstructed or the inflation pressure is excessive. Although inflation of the stomach is not dangerous, it may make lung ventilation more difficult and increase the likelihood of vomiting. When the victim's stomach is bulging, always turn the victim's head to one side and be prepared to clear his mouth before pressing your hand briefly over the stomach. This will force air out of the stomach but may cause vomiting.

   When a victim is revived, keep him as quiet as possible until he is breathing regularly. Keep him from becoming chilled and otherwise treat him for shock. Continue artificial respiration until the victim begins to breathe for himself or a physician pronounces him dead or he appears to be dead beyond any doubt.

   Because respiratory and other disturbances may develop as an aftermath, a doctor's care is necessary during the recovery period.



THE AMERICAN NATIONAL RED CROSS

FIRST AID FOR CHOKING

If victim can cough, speak, breathe ➧ Do not interfere

If victim cannot
cough
speak
breathe

Have someone call for help. Telephone : _____ (Number)

TAKE ACTION: FOR CONSCIOUS VICTIM

4 QUICK BACK BLOWS

4 MANUAL THRUSTS

Repeat steps until effective or until victim becomes unconscious.

TAKE ACTION: FOR UNCONSCIOUS VICTIM

TRY TO VENTILATE

4 BACK BLOWS

4 MANUAL THRUSTS

FINGER PROBE

Repeat steps until effective.

Continue artificial ventilation or CPR, as indicated.

Everyone should learn how to perform the above first aid steps for choking and how to give mouth-to-mouth and cardiopulmonary resuscitation. Call your local Red Cross chapter for information on these and other first aid techniques.

Caution: Abdominal thrusts may cause injury. Do not practice on people.

THE AMERICAN NATIONAL RED CROSS

C. Bleeding

In case of accidents, control of external bleeding generally demands first priority after being sure the victim is breathing through an adequate airway (i.e., open passage for air to reach the lungs). Obviously, the more rapid and extensive the bleeding, the more urgently is control indicated. Bleeding may be of one of the following three types, or may be due to a combination of these types.

1. General oozing: Oozing in a small area is best controlled with firm pressure applied over the area with the fingers or hand covered with sterile gauze, if available.

2. Bright red, pulsating bleeding: This is arterial bleeding and is often profuse. To control, apply firm pressure with fingers or hand on the side of the wound closest to the heart or over the wound itself. If this doesn't stop the bleeding, it may be necessary to apply, at the appropriate "pressure point," firm enough pressure to compress the pulsating artery at this point. These "pressure points" are the points in the groins and midway up the inner aspect of the upper areas where pulsating arteries can be felt. Do not use a tourniquet. If it is necessary to apply a tourniquet, a physician should be contacted immediately, and should see the student as soon as possible. Be sure the physician knows the tourniquet is in place and when it was applied. Tourniquets should only be applied to traumatic amputations.

3. Steady, dark bleeding: This is generally venous and is controlled by direct pressue on the wound.

A combination of the methods of control for the various types of bleeding may be indicated. Use as much cleanliness in control as possible (i.e., clean hands, sterile compresses, etc.). If bleeding is more than mild oozing, medical care is indicated as soon as possible.

NOTE: Shock may accompany bleeding and, if so, treat this. Shock may be due to internal bleeding particularly after blows to the abdomen.

Lacerations, Abrasions:

1. For all bleeding: apply direct pressure over wound. Use sterile guaze pad, handkerchief or hand.

2. Deep wounds which require stitching or involve bone should receive a physician's attention promptly. Do not try to wash and cleanse deep wounds -- particularly wounds that go down to bone and particularly deep wounds on the head. Control bleeding, cover with sterile gauze, and seek medical care.

3. In case of small superficial abrasions and cuts, control bleeding, cleanse gently with water and soap, and cover with a sterile gauze upon arrival at school or at home.

4. Puncture wounds or wounds made by dirty or rusty agent apt to cause tetanus. In such cases advise school officials and/or parents immediately.

5. Find out how the cut or abrasions occurred and inform school officials and/or parents so that they have this information when they contact the student's physician. The school health record should reveal pupil's tetanus immunization status.

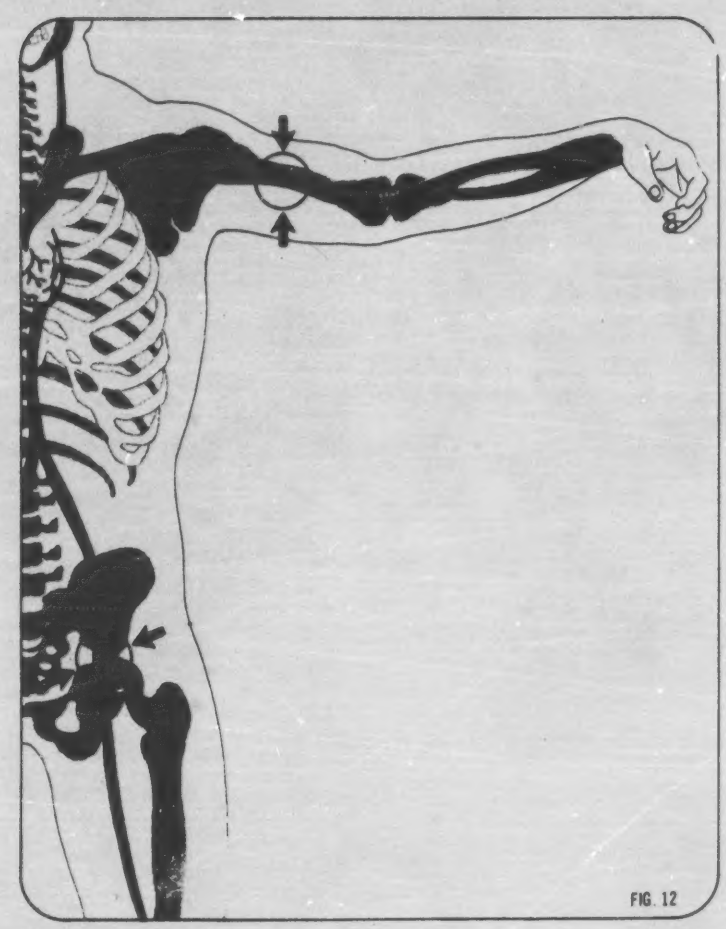


FIG. 12

Pressure Points:

a. Use the brachial artery for the control of severe bleeding from an open arm wound.

   1. Apply pressure over the brachial artery, forcing it against the arm bone. The pressure point is located on the inside of the arm in the groove between the biceps and the triceps, about midway between the armpit and the elbow.

2. To apply pressure on the brachial artery, grasp the middle of the victim's upper arm, your thumb on the outside of his/her arm and your other fingers on the inside. Press your fingers toward your thumb to create an inward force from opposite sides of the arm. Use the flat, inside surface of your fingers, not your fingertips. This pressure inward holds and closes the artery by compressing it against the arm bone.

b. Use the femoral artery for the control of severe bleeding from an open leg wound.

1. Apply pressure on the femoral artery by forcing the artery against the pelvic bone. The pressure point is located on the front, center part of the diagonally slated "hinge" of the leg, in the crease of the groin area, where the artery crosses the pelvic bone on its way to the leg.

2. To apply pressure on the femoral artery, position the victim flat on his/her back, if possible, and place the heel of your hand directly over the pressure point. Then lean forward over your straightened arm to apply the amount of pressure needed to close the artery. Keep your arm straight to prevent arm tension and muscular strain while you apply this technique. If bleeding is not controlled, it may be necessary to compress directly over the artery with the flat of the fingertips and apply additional pressure over the fingertips with the heel of the other hand.

D. Shock

This is a severe body reaction to some stress such as a hemorrhage, a severe fracture, or burn. The student is anxious, cold, pale, sweating. Pulse is weak and rapid. He/she does not improve after a brief period as he/she would in case of fainting.

1. Make student warm (not hot) and as comfortable as possible. Keep calm. Place blanket beneath child.

2. Student should be horizontal with head flat. (NOTE: In case of possible severe fractures or spinal injuries, do not change the patient's position. A physician should be called immediately.) If a person trained in Emergency Medical Care (EMT-A) is available, he/she should be in charge until the physician arrives.

3. If there is bleeding, control it by direct pressure.

4. If there is a burn, handle this as indicated under "Burns."

5. Do not give anything by mouth.

6. School official and/or physician should be called immediately.

E. Other Conditions

(a) Spinal Injuries:

If the injury has been severe, if the student thinks he/she has felt a bone break, or if there is physical deformity or swelling, suspect a fracture or dislocation. Medical attention as soon as possible is indicated. Call school official for someone trained in emergency medical care.

In the meantime:

1. Keep the student quiet and warm.

2. Do not move the bone which may be fractured or dislocated. Do not try to straighten it. Do not move the fragments or the adjacent joints.

3. Do not move or twist the spine or neck if you suspect fractures or dislocations there.

4. Do not attempt to move the student until proper splints or backboards are available.

5. Treat shock or bleeding if present.

b. Nose Bleeds:

1. Keep calm. Take immedicate action to control the bleeding.

2. Apply cold compress to the side or sides of the nose from which blood is coming, and press side of nose tightly against midline partition for several minutes.

(c) Burns:

Chemical Burns:

1. Wash area immediately and for several minutes with large quantities of cool clean water.

2. Notify school officials and/or parents. Physician should be consulted regarding need for further treatment which will vary with the nature of the chemical and the extent of the burn.

(d) Thermal burns (due to heat):

1. For first degree (skin only reddened) and small second degree (skin reddened and blistered) burns, apply cool tap water immediately by immersion or by cloths soaked in cold water until pain does not recur when cold water is removed.

2. For third degree burns (the whole thickness of skin is destroyed) or for extensive second degree burns:

   a. Treat for shock if present (see section on shock).

   b. Clothing, rings, necklaces, etc. are superheated items and should be removed. Superheated items continue the burning process even though no flame is present.

   c. Do not apply ointments or absorbent cotton. Try to keep dirt and dust out of the raw area. If sterile dressings are not available, a clean sheet or clean towel around or over but not on the burned area should be used to protect and cover the burn while the patient is awaiting medical care.

   d. Seek medical care immediately.

   e. Give nothing by mouth.

(e) Head Injuries:

Head injuries - Call for ambulance

1. Have student lie down with head slightly elevated.

2. Keep under close observation and notify school officials and/or parents. Advise them to contact their physician.

3. If there is deformity, marked swelling, loss of consciousness, vomiting, changes in rate of breathing, difference in size of the pupils of the eyes, or bleeding from scalp, nose, or ear, immediate care by a physician is indicated. Notify school official and/or parent.

4. All head injuries should be treated also as neck injury until diagnosed otherwise by physician.

5. Student should not be moved.

(f) Loss of Consciousness:

Fainting:

Simple, brief loss of conciousness, generally due to excitement or anxiety, responds best to calm waiting. Loosen clothing around neck and waist. Do not crowd around student. Let student lie down until fully recovered. (See Shock.)

(g) Convulsions and Seizures:

Each bus driver should know of any pupil who is subject to seizures, and should have learned from the parent any signs the child may show before a seizure, a desciption of how the child acts during the seizure, and how long the seizure usually lasts. He/she should know any actions found by the parents to be useful in preventing the seizure, or in handling the child while it lasts.

When a seizure occurs:

1. Be calm. With proper care and precautions the child is not going to injure himself/herself during the convulsion.

2. If there is a sign of a seizure coming on, try to get get the child to a place to lie down.

3. Place firm article between the teeth so the tongue will not be bitten...e.g., tongue blade, wallet, etc.

4. Loosen clothes around the neck and waist.

5. Gently try to place the child on his/her side so that the head turns to the side, and the tongue does not fall back in the throat and block off the airway. With the head to one side, chances of aspiration are lessened.

6. Wait for the seizure to subside. If it does not subside in a few minutes, call the school official and/or parents, or if they are not available, the physician.

(h) Abdomen:

1. Mild abdominal pain may be due to constipation, menstrual periods, diarrhea, etc. This usually responds to rest and time.

2. If a child has severe abdominal pain: if the pain is accompanied by vomiting, fever, passage of bloody stools, or if the pain follows a blow to the abdomen, parents should be notified and medical attention obtained. Nothing should be given by mouth.

3. If a child has recurrent pain, contact the school offical. He/she should be checked by his/her physician.

4. Vomiting may be due to hasty eating, long riding on the bus, (car sickness), strenuous exercise or eating indigestible foods. Child should lie down, keep quiet, apply cool cloths to face. Later may have small sips of water.

(i) Eyes:

Chemical burns:

1. Irrigate the eye with a profuse amount of cool, clean water for at least 5-10 minutes. Pour water gently into the inner corner of the injured eye with the head tilted to that side, so that the water passes over the eyball. Hold eyelids open.

2. Immediate attention from a physician is indicated.

Foreign bodies:

1. Tell child not to rub eye.

2. Wash hands before handling eyelids.

3. Pull down lower lid to see if the foreign body is on the inner surface of the lid. If so, remove by lifting off with the moistened corner of a clean handkerchief or moistened sterile cotton ball. Do not use dry cotton around the eye.

4. Foreign bodies on the inside of the upper lid may be dislodged by grasping the lashes of the upper lid and pulling upper lid forward and down over the lower lid while the child looks up.

5. Foreign bodies may be flushed off the eye with clean water applied gently from a medicine dropper. Do not try to rub off.

6. If these measures do not remove the foreign body, contact the school official and/or parents and advise medical care.

Abrasions, lacerations, and penetrating wounds of the eyeball:

1. Child may complain of pain, light hurting eye, clouding of vision.

2. Do not attempt to treat or to remove penetrating object if present. Gently "pad" eye to protect it.

3. Contact school official and/or parents. Immediate medical care is indicated.

Blows to the eye:

1. If severe or if there is clouding of vision, immediate medical care is indicated.

2. Keep child flat and quiet.

(j) Stings:

Insect Stings:

1. Scrape out stinger with fingernail if present -- do not pull out. Apply cold compresses.

2. Physician should be consulted immediately if there is any reaction such as hives, generalized rash, pallor, weakness, thick tongue or lips, tingling tongue or lips, nausea, vomiting, "tightness" in chest, nose or throat, or collapse.

3. Institute mouth-to-mouth and/or cardio-pulmonary resuscitation as indicated.

(k) Foreign Bodies:

Splinters:

If the splinter end is outside the skin, it can usually be removed readily by use of clean tweezers. If the splinter is not easily removed, notify school official and/or parent.

Ears:

Foreign bodies in the outer ear sometimes may be removed by tilting the head to that side. If it does not come out readily, do not try to remove it with instruments. Be sure school official and/or parents know about the foreign body so they can seek medical care. Foreign bodies in the ear should be removed as soon as is practical, but removal is not usually an emergency procedure. However, it is important to remove vegetable material such as peas, seed, etc., soon because these absorb water and swell, making removal more difficult the longer they are present. School officials and/or parents should be contacted when the foreign body is noted so they can arrange for removal by student's physician.

Nose:

The recommendations for handling foreign bodies in ears apply similarly for handling nasal foreign bodies.

Throat:

If a child coughs and chokes when he/she has had some small object like a nut, small piece of candy, pea, etc. in his/her mouth, the object may be lodged above the wind pipe. IF coughing does not dislodge the object, place the child so the head is down (turn upside down if he/she is small child, or have him/her bend over,) and slap sharply on the back between the shoulder blades as the child coughs out. If symptoms persist contact school official and/ or parent. Child should be taken to physician immediately.

In the event that a child swallows a foreign body, it will generally be passed without difficulty. However, if the foreign body is relatively large or sharp it may lodge in the esophagous in which case the child will generally have some difficulty or discomfort on swallowing liquids. The school official and/or parent should be informed of any swallowed foreign body.

(l) Broken Teeth:

1. If a tooth is fractured (part broken off), notify the school official and/or parents so they can contact the student's dentist.

2. If a tooth is completely knocked out, save the tooth and have the school officials and/or parents take this with the child to the dentist immediately.

(m) Fractures, Sprains and Strains:

A: IMPORTANT PRIMARY INFORMATION

There are two major types of fractures: 1) closed (or simple fracture) where the skin has not been broken by bone ends, and 2) open (or compound fracture) where bone has broken through the skin, or where a wound exists between the broken bone and through the skin. The wound may be small, or either or both ends of the broken bone may protrude through the skin.

Because a compound fracture is more serious than a simple fracture (i.e., greater blood loss, potential contamination and subsequent infection), it is quite important to know the type of fracture that has occurred. A compound fracture is readily recognized; if injury occurs wherein the possibility of simple fracture exists (especially where deformity, tenderness, grating sound, swelling or inability to move an extremity are present), the victim should be treated as if a fracture does exist, until he/she can be transported to a hospital for medical diagnosis.

B: TREATMENT

1. All open fractures should be treated by covering the wound with a sterile dressing (this is best done by "dropping" the dressing over the wound without actually touching it) and by applying direct pressure to stop bleeding (see section on bleeding).

2. Protruding bone ends must never be pushed, pulled or manipulated in any manner, in any direction, for any reason!

3. Apply cold compresses.

4. Elevate the extremity and do not allow student to bear weight on it.

5. Notify school officials and/or parents and advise them to contact their physician.

(n) Emergencies Concerning Frostbite:

Putting clothing over the frostbite will help prevent further injury. The part should never be rubbed, chafed, or manipulated.

Once a frozen limb has been thawed, the student becomes a stretcher case. Attempts to walk on the thawed limb, with the resulting exposure to refreezing, are extremely painful and dangerous. The student must be transported supine with the limb protected.

Blisters should not be opened. They should be protected with a dry sterile dressing.

The following DON'TS should be observed:

Don't make matters worse. Treat injured parts extremely gently to prevent further damage of the tissue.

Don't apply pressure or constriction on the injured area: the tissue should be bandaged lightly to protect it from contamination.

Don't under any circumstances rub the tissue. Frozen cells contain ice crystals which can cut or destroy the tissue.

Don't apply snow or thaw the part in cold water. This is no more sensible than treating a burn by putting it in a fire.

UNIT III

F. REVIEW QUESTIONS

Complete these sentences:

1. Before you can set priorities for treatment, you must evaluate:

   a. the scene for
   b. types of
   c. need for immediately

2. Two types of injuries that require prompt treatment are:

   a. _____bleeding, and
   b. blocked _____or stoppage of_____.

3. When might you have to move an injured person before you administer first aid?

4. With any serious injury, you should also treat the person for:

Check A, B, or C:

5. Treating for shock, you should:

   place a coat, jacket, etc, under victim. A

   put coat, jacket, etc. under and over the victim sparingly according to temperature. B

   put coat, jacket, etc. under and over the victim and apply external heat. C

6. If a car hits a power pole, what would you check for first?

   Hot wires A

   Injuries B

   Victims to be removed C

7. If a victim is not breathing, you should:

   Call a doctor and wait A

   Check airway, give artificial respiration B

   Take victim to hospital C

8. If a victim has possible chest injuries and is not breathing, what method would you use?

   Back-pressure arm-lift A

   Mouth-to-mouth B

   Rush to hospital C

True or False:

9. To minimize the effects of shock, keep the victim lying down and comfortable — T F

10. The tourniquet should be used only for severe life-threatening hemorrhage that cannot be controlled by other means. — T F

11. Whenever possible, a person should be treated where that person is found. — T F

UNIT IV

DRIVING FUNDAMENTALS

TABLE OF CONTENTS

OBJECTIVES

A. OVERVIEW 52

B. GETTING READY TO DRIVE 52

C. STARTING THE ENGINE 52

D. SHIFTING GEARS AND ACCELERATING 55

E. DOUBLE CLUTCHING 57

F. SHIFTING AUTOMATIC TRANSMISSION 57

G. STEERING AND TURNING 58

H. STOPPING AND PARKING BUS 61

I. RAILROAD CROSSINGS 62

J. BACKING IN A STRAIGHT LINE 64

K. STARTING AND STOPPING ON A HILL 64

L. ENTERING THE FLOW OF TRAFFIC 65

M. ADJUSTING THE SPEED OF THE BUS 66

N. LANE USE AND POSITION ON ROADWAY 66

O. BEING OVERTAKEN AND PASSED 66

P. OVERTAKING AND PASSING 67

Q. SECURING THE BUS 68

R. FACTORS THAT AFFECT FUEL ECONOMY 72

S. REVIEW QUESTIONS 78

OBJECTIVES

By the end of this unit, the students should be able to:

1. Identify basic driving maneuvers.

2. Discuss state laws and local policies related to basic driving maneuvers.

3. Demonstrate basic maneuvers behind the wheel of a bus.

A. OVERVIEW

In past years, accidents involving school buses were caused by the school bus driver in about 50 percent of the cases. In those accidents, drivers did not follow proper procedures of driving fundamentals.

You have entrusted to you the lives and safety of a human cargo that cannot be measured in terms of dollars and cents. The purpose of this unit is to teach you the basic skills necessary to operate buses safely and efficiently in transporting this valuable cargo.

Not only will you learn the procedures for basic driving skills, but you will practice each skill correctly to become proficient. Through practice, each correct basic procedure will become a habit and will improve your performance as a school bus driver.

B. GETTING READY TO DRIVE

To be a good driver, you must position yourself in control; you must be able to reach and operate the controls in comfort and be able to see the areas all around the bus.

1. Adjust seat so that your feet can operate floor controls easily.

2. Adjust (or check) all mirrors for optimum rear vision of traffic behind the bus, and for proper vision to both sides and across the front of the bus.

3. Fasten and adjust seat belt.

4. Go through shift pattern with clutch depressed, if bus make is unfamiliar.

C. STARTING THE ENGINE

The procedure used in starting a bus engine must become a matter of routine. It must incorporate principles of safety and be performed in keeping with good engine preventive maintenance practices.

1. Set parking brake to keep bus from moving.

2. Depress clutch pedal to disengage engine from transmission.

3. Shift gear lever into neutral position.

4. Turn on ignition key to complete electric circuits.

5. Engage starter switch with clutch depressed and gear shift in neutral.

    a. Use hand choke if necessary and available. Over-choking will cause carburetor flooding.

b. Use foot accelerator sparingly. Pumping will cause carburetor flooding.

c. Bus engines will vary widely in their carburetor sensitivity; therefore, do not hesitate to ask the supervisor or bus mechanic for special techniques in starting a particular bus.

6. Warm up engine at fast idle; do not race the engine.

7. Check instruments to see that they are registering properly:

a. Ammeter registering in plus direction.

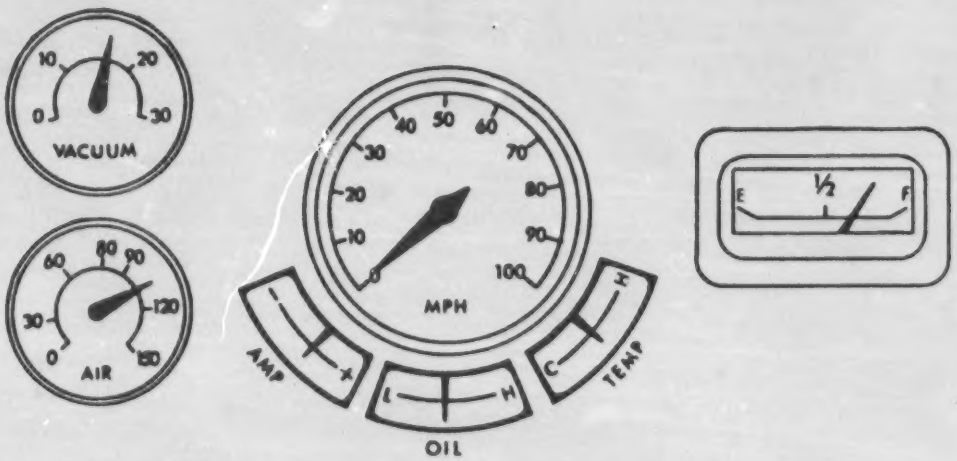
b. Oil gauge at middle of instrument.

c. Temperature gauge at midpoint.

d. Gas gauge registering full (or enough to complete run).

e. Vacuum gauge light is not on (for hydraulic brakes).

f. Air pressure gauge light and/or buzzer are not on (for air brakes).



Ideal Instrument Readings

NOTES:

D. SHIFTING GEARS AND ACCELERATING

Gear shifting is a phase of bus driving which requires skill and practice. You must learn the best range of speed in changing gears upward and downward. You must shift the gears without losing your view of the road. Synchro-mesh transmissions have alleviated most of the gear clashing. Generally buses are equipped with a four- or five-speed transmission.

(Explain that they will learn to shift without taking eyes off road.)

1. Know the gear positions.

   a. Check chart on lever knob or on dash.

   b. Ask mechanic.

2. Depress clutch pedal.

3. Shift gear lever into starting gear.

   a. For average terrain and load, this should be second gear.

   b. Load and/or terrain may indicate the use of first gear.

   c. Never start out in a gear higher than second, as this places undue load and wear on the engine and clutch.

4. Depress foot brake.

5. Release parking brake lever. If ratchet type, pull brake lever slightly back to release pressure.

6. Release clutch gradually to friction point and hold. At this point, you will have the clutch just at the point of friction and the foot brake on and ready to release. Release foot brake.

7. Depress accelerator. Hold point of clutch friction and slightly depress accelerator to increase the power to prevent stalling.

8. Release clutch.

   (Ask whether any trainees do not know how to drive a "standard shift" car. They will need extra practice in the procedures of shifting gears. Emphasize the simultaneous occurence of releasing clutch and accelerating until bus is rolling.)

   a. Slowly and gradually release the clutch to the remainder of pedal travel and at the same time slowly and gradually increase the acceleration.

b. Remove foot from clutch pedal completely.

c. Pick up engine speed before shifting to higher gear.

9. Shift to next higher gear.

a. Depress clutch pedal and release accelerator.

b. Shift to next higher gear.

c. Release clutch smoothly but more quickly than in starting gear and depress accelerator smoothly and quickly.

(1) To prevent loss of vehicle speed.

(2) Do not race the engine and slip the clutch.

d. Remove foot from the clutch pedal.

e. Proceed in this gear until proper speed is reached for shifting to next gear.

10. Repeat Step 9 procedures until the bus is in cruising gear.

11. When practical, don't skip a gear in upshifting or downshifting as this causes undue engine and clutch wear.

12. Shift up or down as may be necessary to prevent engine lugging or excessive engine rpm.

13. In going down a hill, shift into the gear that would be used in going up the hill.

Approximate m.p.h. to be reached before upshifting or downshifting m.p.h. may vary slightly depending on make of engine, transmission, gear ratio, and terrain.

Upshifting		Downshifting	
From 1 to 2 gear	1-5 m.p.h.	From 5 to 4 gear	30-35 m.p.h.
2 to 3 gear	5-12 m.p.h.	4 to 3 gear	25-30 m.p.h.
3 to 4 gear	12-10 m.p.h.	3 to 2 gear	5-10 m.p.h.
4 to 5 gear	25-30 m.p.h.	2 to 1 gear	Stop

Appropriate Gears for School Bus Speed

E. DOUBLE CLUTCHING

Synchromesh transmissions have almost eliminated the need to double clutch. Shifting the gears on nonsynchromesh transmissions is done faster and smoother by double clutching. This process coordinates the engine speed and transmission speed for nonclashing of gears. Double clutching aligns the gears for easy upshifting and downshifting. The gears should never be forced by improper timing of the shifting process. Reclutching and speeding up the engine will in most cases prevent excessive clashing. Never allow the engine to pull heavily going upgrade, on a turn, or on a curve. And, don't let the engine overrace on a downgrade.

1. Double clutching, upshifting.

   a. Depress clutch pedal and release accelerator.

   b. Shift gear lever to neutral position.

   c. Release clutch pedal momentarily to engage clutch.

   d. Depress clutch pedal and shift to next higher gear.

   e. Release clutch and accelerate engine at the same time.

2. Double clutching, downshifting.

   a. Depress clutch pedal and release accelerator.

   b. Shift gear lever to neutral position.

   c. Release clutch pedal momentarily to engage clutch and accelerate engine to more than original speed.

   d. Depress clutch and shift to next lower gear.

   e. Release clutch pedal gradually and accelerate engine to match the speed of vehicle.

3. Related items of double clutching

   a. The double clutching procedure may be slow or fast depending upon the type of bus.

   b. Normally, downshifting two gears is sufficient.

   c. Double clutching requires continuous practice.

   d. Synchromesh transmissions may be double clutched.

F. SHIFTING AUTOMATIC TRANSMISSION

Some buses are equipped with automatic transmissions and you should know how to operate them.

1. Know the shift positions.

2. Depress foot brake.

3. Move selector lever into foward or drive position.

4. Release parking brake.

5. Release foot brake and depress accelerator.

6. As speed of bus increases, the transmission will automatically shift to the next higher gear until reaching cruising gear.

7. Downshift for additional power.

   a. Depress accelerator to the floor firmly. This will cause transmission to downshift one gear.

   b. Move selector level to next lower position.

G. STEERING AND TURNING

To be classified as an expert driver, you must be able to assume the correct steering position and make all the turning maneuvers correctly and smoothly. Learn the correct procedures necessary to prepare for the turn, make the turn, and re-enter the traffic pattern. When you're confronted with an unusual turn or turnaround, turn with extreme caution. The raising of speed limits, and the super-highway systems upon which the school buses may travel, force you to use added skills and judgment in making turns properly and safely.

1. Steering positions.

   a. Grip the steering wheel with both hands.

   b. Left hand at approximately 9 o'clock position.

   c. Right hand at approximately 3 o'clock position.

   d. Hands on outside of steering wheel and thumbs on top or inside of wheel.

2. Focus eyes on road ahead as well as all around the bus.

   a. Eyes should be constantly on the move to obtain the "big picture."

b. Look ahead; use left side, right side and rearview mirrors.

3. The push-pull steering method is recommended for school bus drivers. One hand pulls and the other hand pushes.

4. Hand over hand method may catch thumb in clothing, safety chain on the wrist watch, bracelets, etc., which are hazards to steering.

5. Preparing for turns.

   a. Check traffic to the front and rear of the bus.

   b. Give proper signal to move vehicle into proper lane.

6. Making right turn.

   a. Give proper right hand turn signal.

   b. Reduce speed and downshift to proper gear needed to execute turn.

   c. Position bus in right of the lane.

   d. Check for clear right of way.

      (1) Traffic signals, signs, pedestrians, or vehicles.

      (2) Use both outside mirrors.

   (e) Execute the turn.

      (1) Make turn smoothly without strain on the engine.

      (2) Never shift gears during a turn.

      (3) Check right mirror while executing turn.

      (4) Enter the right-most lane available and check turn signal for cancellation.

      (5) Steer wheels back into position -- do not let steering wheel spin wheels back into position.

7. Making left turn

(a) Give proper left hand turn signal.

(b) Reduce speed and downshift gear.

(c) Position bus to the left edge of the lane.

(d) Check for clear right of way.

(1) Traffic signals, signs, pedestrians, or vehicles.

(2) Use both outside mirrors.

(3) If necessary to stop, keep front wheels straight and brake pedal depressed.

(a) Prevents drifting and activates stop lights.

(b) Prevents being shoved into line of approaching traffic if struck from the rear.

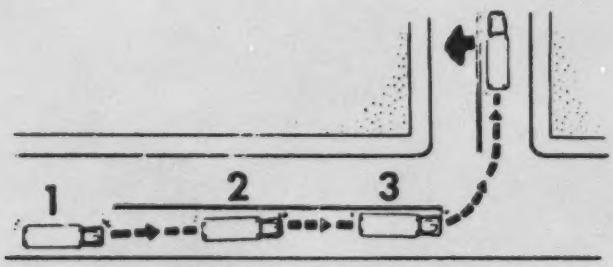
e. Execute the turn.

(1) Drive into the intersection, make turn smoothly, and without strain on the engine.

(2) Check left mirror while executing turn.

(3) Never shift gears in a turn.

(4) Enter the highway in the left-most lane available and check turn signal for cancellation.



LEFT TURN

f. After completing the left turn upon multiple lane highways, pick up speed, activate right turn signal and move into right hand lane as soon as possible.

8. Making a turnaround

a. Give brake signal well in advance of turnaround.

b. Stop bus in proper position on roadway.

(1) One bus length ahead of road to be backed into.

(2) Check traffic front and rear.

(3) Visibility should be 500 feet in either direction.

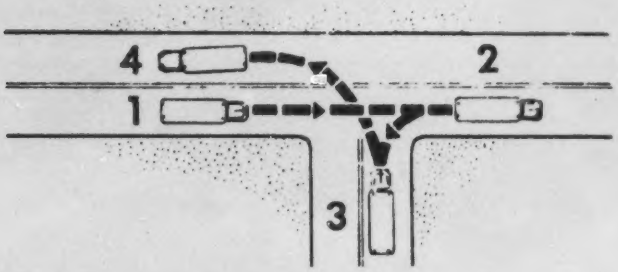
(4) Have traffic move around bus if possible.

(5) Back into roadway or driveway using outside mirrors.

(6) Re-enter roadway.

(a) Check traffic

(b) With caution



TURNAROUND

H. STOPPING AND PARKING BUS

Stopping a school bus smoothly and within the limits of safety is another sign of an expert driver. As a good driver, you have your vehicle under control at all times and know that braking distances increase greatly as the speed and weight of the bus increases. With an ideal reaction time of 3/4 of a second, you must realize that at 20 m.p.h. the average stopping distance is 62 feet, and at 40 m.p.h. the stopping distance is 209 feet or more than three times greater. Figure 3 shows approximate stopping distance required at various speeds. The top part of each bar indicates the distance traveled during reaction time (3/4 of a second). The lower part of each bar shows actual stopping distance after the brake is applied. The last number below the bar shows total stopping distance.

Learn and practice these procedures:

1. Stopping when in a low gear or 10 m.p.h. and less.

(a) Depress clutch pedal and release accelerator.

(b) Apply brakes gradually by increasing pressure.

(c) Reduce brake pressure slightly, but not completely, just before coming to a stop to prevent jerking.

(d) Shift gear lever into neutral position.

(e) Release clutch and remove foot from pedal.

2. Stopping when in cruising gear.

(a) Release accelerator and depress brake pedal.

(b) When proper m.p.h. is obtained for any gear, downshift to next lower gear.

(1) Will reduce heat build-up.

(2) Reduce excessive brake wear.

3. Parking the bus.

a. Shift lever into low gear on level or upgrade.

b. Shift lever into reverse gear on downgrade.

c. Turn wheels into curb.

d. Turn off ignition and remove ignition key.

e. Release clutch and take foot off pedal.

f. Set parking brake (parking brake may freeze in wet freezing weather).

I. RAILROAD CROSSINGS

Many accidents could be eliminated through planned safety procedures for crossing railroad tracks. Learn these procedures and practice them until they become automatic reactions.

Crossing railroad tracks represents one of the greatest hazards insofar as mass casualties are concerned. STOP, LOOK, and LISTEN. All school buses, with students on board, shall stop at railroad crossings.

1. Prepare to stop.

a. Request silence.

(1) This is recommended so that you have minimal distraction.

(2) Turn heaters off if necessary to have more silence.

b. Get "Big Picture," check traffic control devices.

2. STOP the bus.

   a. Follow legal stopping procedures.

   b. Stop in a position that gives a clear view of the tracks in both directions. The front bumper must be clear of the tracks.

3. LOOK and LISTEN.

   a. Open service door and driver's window.

   b. Look and listen through the open window and door.

4. If no indication of approaching train:

   a. Shift into starting gear.

      (1) Must be a gear that will take bus across tracks without hesitation.

      (2) Shifting gears on tracks shall not be permitted.

   b. Look and listen a second time, close door and proceed quickly and smoothly.

5. If there is an approaching train:

   a. Hold bus position; use the parking brake depending on waiting time:

   b. After train passes, follow items under Procdure 4.

6. Multitrack crossings.

   a. Make sure no train is approaching on any of the tracks.

   b. After a train passes, wait until other tracks become visible before proceeding. A second train may be approaching from the opposite direction.

   c. Follow items under Procedure 4.

7. Railroad traffic control devices.

   a. Flasher lights and bells

      (1) Warning of an approaching train.

(2) If train is stopped or signal is malfunctioning, a vehicle may proceed after driver insures a safe crossing can be made.

b. Gates

(1) All traffic must obey these devices.

(2) Vehicles may proceed around the gates only at the direction of a law enforcement officer or an authorized railroad representative.

c. Railroad crossing controlled by a flag person.

(1) Make a safety stop.

(2) Follow directions of the flag person.

J. BACKING IN A STRAIGHT LINE

You must be able to back straight into a given space without allowing the bus to scrape or hit stationary objects.

1. Stop bus in correct position to back.

2. Direct members of the bus patrol or other responsible person (if available) to stand near rear of bus to give signals for safe backing.

3. Using mirrors, check that way is clear.

4. Put transmission in reverse.

5. Using mirrors, back slowly and smoothly in a straight line.

6. Stop at desired point without hitting any object.

K. STARTING AND STOPPING ON A HILL

STARTING ON A HILL

1. With right foot on brake, left foot depressing the clutch and transmission, and gear shift lever in second gear, release the clutch slowly until the engine begins to labor slightly.

2. Hold clutch at that point.

3. With right foot release brake pedal and drop right foot onto the accelerator, giving enough gas to hold the weight of the bus without drifting backward.

4. Release clutch smoothly until completely out, giving enough gas to pull the bus smoothly up the hill.

STOPPING ON A HILL (UPGRADE)

1. Check following traffic.

2. Apply the brake lightly for a smooth stop.

3. Depress clutch with left foot; shift into neutral.

4. Allow an extra safety margin between the bus and the vehicle ahead on an upgrade.

STOPPING ON A HILL (DOWNGRADE)

Stop as you would on an upgrade, except also:

After step 1: downshift to reduce speed as you see the need to stop.

After step 2: tap brakes about twice.

L. ENTERING THE FLOW OF TRAFFIC

GENERAL

1. Stop at point of entry into the traffic flow.

2. Activate right or left turn signal.

3. Look to determine that there are no pedestrians in the path of the bus.

4. Check mirror to determine that all passengers are seated.

5. Look to right and left to determine whether there are vehicles in motion on the roadway to be entered.

6. Yield right of way to vehicles already on the road.

7. Look for suitable gap in traffic and, when safe, accelerate smoothly into road, neutralizing the turn signal as right lane position is established.

CROSSING INTERSECTIONS

1. Observe the traffic ahead and from the left and right when approaching and traversing intersections.

   a. Watch for vehicles which are close and fast approaching the intersection. Decelerate or stop to permit those vehicles to clear the intersection.

   b. Watch for vehicles approaching from the left and signalling a right turn. Decelerate and prepare to enter the intersection only after the vehicle has begun the turn.

c. If your vision is obscured (e.g., by buildings, trees, parked vehicles, etc.), stop at the intersection and edge forward slowly.

2. Observe other traffic when proceeding directly through an intersection.

a. Observe other traffic and yield the right of way if necessary.

b. Observe traffic preparing to turn left and prepare to stop should a left turn be indicated.

M. ADJUSTING THE SPEED OF THE BUS

You must operate the bus within posted speed limits and with consideration of prevailing environmental conditions. The basic rule of thumb is to drive at not greater speed than will permit stopping within the assured clear distance ahead.

N. LANE USE AND POSITION ON ROADWAY

1. Stay in one lane for normal driving, not straddling lane marker lines or obstructing more than one lane.

2. Use parking lane only for stopping and parking.

3. Where there is more than one lane for traffic going in one direction, travel in the furthest right lane (not including parking lane) unless passing or turning to the left.

CHANGING LANES

Look for rear-approaching traffic in the new lane when deciding to change lanes.

1. Look out the window to check any blind spot, move your head enough to see around the blind spot.

2. On multi-lane roads, look for vehicles about to enter the new lane from the far adjacent lane.

3. Check the rearview mirror(s) to observe vehicles passing in the new lane, following vehicles closing fast from the rear in the new lane, and following vehicles about to enter the new lane.

O. BEING OVERTAKEN AND PASSED

1. When there is no possible hazard:

Stay in right-hand lane

Maintain speed

2. When another vehicle is also approaching from the opposite direction creating a hazard for the vehicle trying to pass you:

   Slow bus to allow car to safely pass before oncoming vehicle reaches you, or

   Move to parking lane or leave roadway if it seems that passing vehicle can't complete the pass before oncoming vehicle reaches you.

3. When on a narrow road, following traffic is built up, and a regular stop is not coming up soon:

   Pull to side of road (if possible) using right turn signal, and stop.

   Allow vehicles to pass.

   Activate left turn signal.

   Resume position on road and continue run.

P. OVERTAKING AND PASSING

Usually, you won't have to overtake and pass other vehicles. But when it's neceesary, follow these steps:

1. Using rearview mirror, check that the traffic following the bus is clear for passing.

2. On a two-lane road check that there is no on-coming traffic and check traffic signs and markings to determine if passing is allowed.

3. Activate the left turn signal well in advance of passing.

4. When clear, pull smoothly into passing lane.

5. Deactivate right turn signal.

6. Move smoothly past the vehicle at a safe speed, increasing speed of bus if necessary.

7. Activate right turn signal.

8. Move back into right lane when at least 1½ bus lengths ahead of passed vehicle.

9. Deactivate right turn signal.

10. Maintain safe speed.

7i

EXTRA CAUTION: Signal your intention to pass -- to the lead vehicle -- by flicking headlights at night, or by sounding the horn:

1. When the lead vehicle's vision to the rear is obscured by a trailer, open trunk lid, ice or snow on the rear window, or objects in the rear window.

2. When the lead vehicle is about to pull out and pass.

3. When the lead vehicle moves laterally toward the bus.

4. When the driver of the lead vehicle appears inattentive.

DO NOT PASS if the lead vehicle is:

1. Signalling or otherwide indicating a left turn.

2. Changing lanes preparatory to passing.

3. Weaving or wandering.

   In this case, you may sound the horn or flash the headlights to alert the driver of the lead vehicle, and if the weaving does not cease, wait until you can pass with at least one-half lane separation.

4. Decelerating suddenly.

5. Passing children, cyclists or animals.

6. Being passed by another vehicle.

   In this case, wait until the lead vehicle has been passed, your view of the road ahead is clear, and an acceptable gap is present.

Q. SECURING THE BUS

You must be able to secure the bus so that it will remain stationary and as well protected from unauthorized use as possible. Follow these steps:

1. Set the hand brake.

2. Shift to a low gear.

3. Check instrument for normal readings.

4. Turn off ignition and remove key.

5. Upon leaving bus, secure door.

SCHOOL BUS DRIVING MANEUVER	SPECIFIC PROVISIONS OF LOCAL POLICY
1. GETTING READY TO DRIVE	
2. STARTING ENGINE	
3. SHIFTING (including Double Clutching and Shifting Automatic Transmission)	
4. STEERING AND TURNING (including Right Turns, Left Turns, and Turnabouts)	
5. STOPPING AND PARKING	

SCHOOL BUS DRIVING MANEUVER	SPECIFIC PROVISIONS OF STATE LAW	SPECIFIC PROVISIONS OF LOCAL POLICY
6. RAILROAD CROSSINGS		
7. BACKING IN A STRAIGHT LINE		
8. STARTING/STOPPING ON HILL		
9. ENTERING FLOW OF TRAFFIC (including crossing intersections)		
10. ADJUSTING SPEED OF BUS		

SCHOOL BUS DRIVING MANEUVER	SPECIFIC PROVISIONS OF STATE LAW	SPECIFIC PROVISIONS OF LOCAL POLICY
11. LANE USE/POSITION ON ROAD		
12. BEING OVERTAKEN AND PASSED		
13. OVERTAKING AND PASSING		
14. SECURING THE BUS		
15. OTHER		

R. FACTORS THAT AFFECT VEHICLE FUEL ECONOMY

Greater fuel economy is not obtained on the basis of hunches; it is achieved by becoming knowledgeable of and practicing techniques that reduce energy consumption. Using such techniques offers each school district or contractor a sound and practical framework for improving fleet performance.

The type of school bus used, how well it is maintained, where it is driven, and how it is driven affects the fuel economy that can be obtained.

1. HORSEPOWER AND FUEL ECONOMY

An understanding of school bus fuel economy performance is based upon obtaining insight into the application of some fundamental principles which are concerned with determining the ability of the bus to perform useful work in an efficient manner. Horsepower is the rate at which the school bus performs the work. It represents a measurement basis for rating the performance of a school bus and indicates the amount of work that is done over a given time period. Horsepower is a measure of the maximum power that is available from the engine. The horsepower that is delivered to the clutch or its equivalent with all accessories functioning is referred to as a vehicle's net horsepower.

Horsepower and fuel consumption are related. The horsepower needed by a school bus to overcome all forms of resistance takes fuel. The total horsepower needed to power the school bus can be described as shown below, ignoring additional power demands for accessories, to overcome engine internal friction, weather, altitude effects, and poor road surface conditions. In sizing your school bus and its engine, at minimum, give consideration to the three important factors shown.

FACTORS THAT INFLUENCE FUEL ECONOMY

Total Power To Operate The School Bus	=	Power To Overcome Air Resistance	+	Power To Overcome Rolling Resistance	+	Power To Climb Grades

High-speed driving increases the horsepower demands of the school bus. The engine of a vehicle having a frontal area of 60 square feet has to generate less than one horsepower to overcome air resistance effects at a speed of 10 mph. The same engine must produce an approximate additional 10 horsepower to overcome air resistance effects at a speed of 30 mph and almost 40 horsepower to overcome the air resistance when the vehicle increases its speed to 50 mph in the same driving environment.

2. ROLLING RESISTANCE AND FUEL ECONOMY

Tire resistance to rolling is another factor that influences fuel economy. As a tire rolls, it flexes. This results in heat buildup or rolling resistance. It forces the engine to work harder to overcome the flexing of tires and any irregularities present in the road surface.

The school bus must overcome greater rolling resistance when it is driven on an asphalt surface as compared to a concrete surface. The vehicle's rolling resistance further increases when it is driven on snow, gravel, or dirt surfaces. A patched up asphalt road or a gravel road will significantly reduce a vehicle's fuel economy. A road covered with snow can reduce a vehicle's fuel economy by as much as 1 mpg.

3. INFLUENCE OF GRADES AND HILLS ON FUEL ECONOMY: GRADEABILITY

Department of Transportation studies have shown that at 50 mph, a bus weighing 36,000 pounds will increase its fuel consumption by 29 percent driving up a continuous 1 percent grade. Hills create more of a fuel economy penalty at lower speeds than at high speeds.

4. ALTITUDE

The loss of power due to altitude changes for naturally aspirated engines is approximately 3 percent for every 1,000 feet of altitude increase.

5. POWER LOSSES

Other resistance demands which the engine must overcome include the power to drive accessories, transmission power, train losses, axle losses, and internal resistance engine losses.

6. WEATHER EFFECTS

Cold weather lowers a vehicle's gas mileage since it requires longer time periods for the engine to warm up. Lubricants do not flow easily when the temperature is low. Once the moving parts warm up, fuel economy will still suffer because of cold air entering the engine. Environmental Protection Agency studies have shown that at a temperature of 20°F, fuel economy can be reduced by 11 percent or greater, as compared to operating the bus at temperatures of 40-50°F.

Winds also have an effect upon gas mileage. An 18 mph headwind can reduce a vehicle's mpg by as much as 17-20 percent.

ONE CANNOT INFLUENCE THE WEATHER,
BUT ONE CAN INFLUENCE
THE AMOUNT OF POWER LOSSES!

7. DRIVING HABITS

How a school bus is driven and where it is driven affect its fuel economy. Unnecessary braking is a fuel waster. This practice results in a large consumption of fuel because inertia must be made up to accelerate the school bus back to its cruising speed.

Changes in the inertia of a vehicle should be gradual to maximize fuel economy. Driving at a constant lower cruising speed, gradually accelerating, using the brakes sparingly, passing and merging in traffic smoothly -- these habits result in less horsepower demand on the engine and more mpg for the school bus.

Idling an engine also wastes fuel. If the bus is going to be stationary for more than one minute, fuel will be saved by shutting it off and restarting it rather than allowing it to idle. Under idling conditions, a gasoline engine can use almost one gallon of fuel per hour and a diesel engine about one-half this amount.

The school bus driver plays an important part in the district's or contractor's fuel-saving program. How a bus is driven and driver alertness to mechanical problems that could affect fuel consumption are important in getting optimum fuel mileage.

8. MAINTENANCE AND FUEL ECONOMY

Maintenance represents an area for significantly improving fuel economy. Simple actions can improve fuel economy from 5 to 10 percent. A spark plug in a gasoline-powered engine offers a typical example of such savings. One plug misfiring in a V-8 engine half the time at 55 mph will reduce gas mileage by 7 percent. Two plugs misfiring can result in a 20 percent fuel economy penalty. Making sure that the vehicle's tires have the proper inflation pressure is another simple but important action that can increase fuel economy. A preventive maintenance program that places emphasis on keeping the vehicle fleet operating at its potential peak efficiency will pay for itself in fuel, parts, and labor savings.

Every school district and contractor can save fuel and dollars by purchasing equipment that will do the job most efficiently, planning routes to minimize fuel economy penalties, training and motivating drivers to drive for fuel economy, and providing a maintenance program that will keep the fleet in top-notch mechanical condition.

9. GASOLINE ENGINE EFFICIENCY FACTORS

To obtain a given horsepower from a given gasoline engine, you will get better efficiency (and use less fuel) by running the engine at lower speeds. This is because higher engine speeds result in greater internal engine friction and throttling losses. Consequently, if you need 30 horsepower to move the school bus at 40 mph, less fuel is consumed by staying in fifth gear at 2,000 rmp than by shifting to fourth gear at 2,500 rpm.

A small engine operating at its governed speed and generating its maximum horsepower will use less fuel to generate that horsepower than will a larger engine producing the same horsepower at a lower load factor. Fuel economy is maximized by selecting an engine for the bus which is near its maximum output during normal operation.

10. DIESEL ENGINE EFFICIENCY ADVANTAGES

Diesels are more efficient than gasoline engines for two reasons. They have a higher compression ratio and lower throttling losses.

Diesels use a lower cost, higher-energy fuel than their gasoline counterparts. Diesel fuel contains more energy than gasoline; it has more BTU's per gallon. Since the diesel engine has a much higher compression ratio, it burns fuel more completely and converts more of the available energy into needed vehicle horsepower.

In high-speed over-the-road operation a major reason for high diesel efficiency is its inherent cycle efficiency since throttling losses in a gasoline engine in these circumstances are slight. In around town stop-and-go operation, the throttling differences between diesels and gasoline engines are important. A diesel can get 30-35 percent better fuel economy than gasoline engines at high speeds and as much as twice their fuel economy in town. Overall a diesel can obtain anywhere between 40-70 percent better fuel economy in the driving environment which includes both high-speed and low-speed operation with many stops--a typical school bus operation in many communities that serve both urban and rural areas.

11. DRIVING FOR OPTIMUM FUEL ECONOMY

Always remember the predriving inspection check--look for trouble, feel for trouble, smell for trouble, and listen for trouble.

Drive away soon after turning on the engine; prolonged "warm up" is not necessary. Drive slowly until the engine warms up. Maximum fuel economy cannot be obtained until the engine has warmed up.

Minimize or eliminate engine warm up time.

Drive slowly during engine warm up periods.

Don't start the engine until everyone is ready to go.

Gradually increased speed--jack rabbit starts are fuel wasters and can harm the engine.

Accelerate smoothly from a stop and when changing speeds.

Shift into higher gears as soon as possible without lugging the engine.

Don't lug the engine--this places a severe strain on components such as bearings and cylinder walls and results in premature engine wear.

TYPICAL MILES PER HOUR TO BE REACHED BEFORE UPSHIFTING OR DOWNSHIFTING

1 to 2 Gear	7-15 MPH	5 to 4 Gear	30-35 MPH
2 to 3 Gear	10-15 MPH	4 to 3 Gear	15-20 MPH
3 to 4 Gear	20-25 MPH	3 to 2 Gear	5-10 MPH
4 to 5 Gear	30-40 MPH	2 to 1 Gear	Stop

Note: MPH will vary slightly depending on the engine make, transmission, gear ration, and terrain.

When approaching a hill, build up speed gradually, but early, and maintain it until the vehicle is near the crest--reduce it and let the potential energy of the vehicle power it to maintain speed.

Observe speed limits; keeping the vehicle's speed low offers safety and fuel economy benefits.

Drive slower on curves.

Drive slowly on unpaved roads and roads with sharp projecting stones.

Adjust driving methods to road conditions.

Drive defensively and brake sparingly--every time the brake is applied, inertia is reduced and extra fuel is required to bring the vehicle back to crusing speed.

Keep proper distance between the bus and the vehicle in front of it; driving too close is a safety hazard, it also necessitates extra braking demands.

Anticipate stops.

Drive at a steady and as near as constant a speed as is practical. Keep an eye on traffic far ahead of the bus to help plan ahead.

Change lanes smoothly--don't pump the gas pedal unnecessarily.

Don't ride the clutch--never use it to hold the vehicle on an incline by slipping it.

At intersections on a hill use the brake instead of the clutch to hold position.

When starting uphill use the brakes to prevent rolling backwards.

Run through the low gears gently, but quickly, into the higher gears which are the most efficient fuel economy range.

Don't skip gears when upshifting with a load.

Use the same practices when driving back to the bus terminal that you would use when transporting pupils.

Maintain a steady, soft foot on the gas pedal.

Merge smoothly; time vehicle approaches.

Shut off the engine if the vehicle is going to be stopped for more than one minute.

Don't "rev up" the engine before turning off the ignition.

Turn off all power-consuming systems before turning off the ignition.

Avoid fuel spillage when refueling buses.

Think fuel economy. Make driving for fuel economy a personal contest.

Maintain patience, courtesy, and good humor.

UNIT IV

S. REVIEW QUESTIONS

Check whether these statements are mostly True or mostly False:

1. You should always unload your students before backing your bus to turn around. T F

2. Backing should never be done unless it is absolutely necessary and should be done with extreme caution. T F

3. You may cross railroad tracks with your front door open to gain better visibility. T F

4. Staying within the posted speed limits is your only concern in adjusting the speed of the bus for urban, rural, residential, or highway driving. T F

5. In general, you should drive in the right lane, except when you need to make a left turn. T F

Choose the best answer:

6. A bus driver who cuts the corner too closely when making a right turn, causing the wheels to go over the curb, is probably:

   (a) unaware of doing it
   (b) a poor judge of distance in other situations, too
   (c) deliberately trying to save time
   (d) a safe driver in other ways

7. You are stopped in a line of traffic headed uphill, waiting for the light to change. You should keep the bus positioned by:

   (a) keeping your foot on the brake
   (b) slipping the clutch
   (c) putting the bus in low gear
   (d) setting the parking brake

8. What must a driver do before entering a street from an alley, private road, or driveway?

   (a) slow down and proceed with caution into the flow of traffic
   (b) stop, yield right of way if there is a stop sign
   (c) stop, yield right of way whether or not there is a stop sign
   (d) stop, yield right of way only if there are stop and yield signs

9. Getting a speeding ticket is:

   (a) not anything to worry about
   (b) unavoidable once in a while
   (c) something to be really concerned about
   (d) a serious crime

10. When passing another vehicle on the road, you should:

   (a) signal, then pull out 3 or 4 bus lengths from the vehicle ahead
   (b) signal, then pull out just as you come behind the vehicle ahead
   (c) signal for the pass as you pull out
   (d) accelerate, and pull out quickly for the pass

11. When turning at crowded intersections, you should:

   (a) try to move very carefully through the flow of pedestrians
   (b) try to move through wherever there is a gap in the flow of pedestrians
   (c) wait until there are no pedestrians actually in the intersection
   (d) wait until there are no more pedestrians waiting to cross

12. What is the maximum speed for school buses in your state?

13. State a rule for determining safe following distance on the highway.

14. Why should you use a reduced gear while traveling down a steep grade?

15. High-speed driving increases the horsepower demands of the engine, thus decreasing fuel consumption? T F

16. Which of the following factors influence fuel efficency?

   A. Grade and air resistance
   B. Air and rolling resistance
   C. Grade, air and rolling resistance
   D. None of the above

17. It is fuel efficient to idle the engine during a warm up period not in excess of 2 minutes? T F

18. The driver is only one individual that should be concerned about fuel efficiency in the transporation operation? T F

19. When driving, to improve fuel efficiency, it is best to accelerate gradually? T F

UNIT V

ACCIDENTS AND EMERGENCIES

TABLE OF CONTENTS

A. GENERAL CONCLUSIONS ABOUT SCHOOL BUS ACCIDENT FACTORS 82

B. ACCIDENT PROCEDURES 83

C. REPORTING AN ACCIDENT 85

D. MECHANICAL FAILURE/BREAKDOWN PROCEDURES 85

E. EVACUATING THE BUS 86

F. EVACUATION PROCEDURE 88

G. IMPORTANT FACTORS IN EVACUATION DRILLS 89

H. USING EMERGENCY EQUIPMENT 90

I. LOCAL POLICIES 95

J. REVIEW QUESTIONS 96

OBJECTIVES

By the end of this unit, the students should be able to:

1. Identify the major causes of school bus accidents and describe actions to avoid accidents.

2. Identify their legal responsibilities and required action in case of an accident.

3. State the school's policy on eight accident/emergency issues.

4. Describe and demonstrate emergency procedures to follow.

A. GENERAL CONCLUSIONS ABOUT SCHOOL BUS ACCIDENT FACTORS

On a national level, certain factors influence school bus accidents. Your local statistics may vary. School bus drivers are at fault about half the time; failure to yield the right of way is the most common driver violation. Collision between a school bus and another vehicle in traffic is most common type of accident.

Young drivers and elderly drivers tend to have a higher accident rate than the intermediate age group.

Defective brakes on the bus is the most common mechanical factor in accidents. (But mechanical failures cause a very low percentage of accidents.)

More students are killed approaching or leaving the bus than on board the bus.

SCHOOL BUS DRIVER LIABILITY FOR PUPIL INJURIES:

You may be held liable for injuries to school children resulting from your negligence. All four essential elements or grounds for negligence must be present. Courts generally consider these to be:

1. Your legal duty to conform to a standard of conduct for the protection of others against unreasonable risks.

2. Your failure to conform to the standard.

3. A reasonably close causal connection between your conduct and resulting injury.

4. Actual loss or damage resulting to the interests of others.

The considerations that most courts use in determining driver negligence are:

1. The degree of care which drivers must use ranges from " ordidinary" and "reasonable" to "extraordinary" and "highest degree." The degree required depends on type of duty. The tendency of the courts is to require more care from people with a duty involving younger children.

2. The approximate age of a child considered to be capable of recognizing traffic dangers is 10 to 11 years.

3. You and your district are both accountable for maintaining a safe vehicle.

4. Most cases involving accidents while boarding and alighting from a bus use the factors of "reasonable care" and "safe places" in determining negligence.

5. You are expected to keep order on a bus and may use any normally accepted means.

6. You are not automatically guilty of negligence if injury occurs. You have the opportunity to refute the charge by proof that proper care was used.

7. You may generally be held accountable for your acts separately from any decision regarding district liability.

8. NEGLIGENCE IS FOR JURY DETERMINATION.

B. ACCIDENT PROCEDURES

If you have an accident, there is a procedure to follow that will meet the requirements of the state law. No two accidents are the same. The sequence of things in the suggested procedure may not be practical in every case. At times, good common sense will be the rule.

STATE LAW REGARDING ACCIDENT--NOTES:

Your primary responsibility is to your passengers. Therefore, your first responsibility is to remain calm. If you are unable physically to perform your duties, direct others to do them for you. Should this be the case, ask your oldest and most capable student to help.

The following procedure is recommended:

1. Turn off ignition switch and take keys.

2. Set brakes.

3. Remain calm and reassure students.

4. Use warning devices to "protect the scene."

   a. Protect the students and the bus from further accidents and injuries: place flags, flares, or fusees in accordance with state law.

   b. Protect the scene from traffic and people so that evidence is not destroyed.

   c. Under normal circumstances, the vehicle involved should not be moved until law officers advise you to do so.

5. Be alert to a fire or the possibility of fire.

   a. Check for ruptured fuel tank and fuel lines. A bus can be a potential furnace.

b. Check for electrical fire.

c. Look for smoke.

d. Check for hot tires which may catch fire -- caused by metal rubbing against a tire from point of impact to final resting place.

e. Extinguish fire, if any.

6. Check for injury to pupils.

   a. If pupils are injured, follow first-aid procedures.

7. Keep all students in the bus, except in three cases:

   a. Conditions might lead to a possible fire.

   b. Danger of further collision.

   c. Danger of drowning.

8. Account for all students.

9. Notify school administrators of the location of the bus accident.

10. Notify the appropriate law enforcement agency.

11. Do not discuss the facts of the accident with other motorists but give information only to investigating officers and school officials.

    a. To provide necessary information for all concerned--law enforcement officers, school officials, etc.

       (1) List all students' names, ages, and addresses.

       (2) Information about the school bus, such as insurance, make, model number, owner, etc. An emergency packet should be carried on the bus which includes bus information, emergency telephone numbers, and any additional local directives covering this subject.

    b. While being investigated, be patient, evaluate questions, and give clear and concise answers.

    c. A driver involved in an accident is required to give his/her name, address, driver's license number, and vehicle information. Be ready to give this information to the other driver and also write down the same information regarding him/her.

d. If witnesses were present, other than your students, get names, addresses, and license numbers.

12. Cooperate with school administration.

a. During the investigation of the accident, do not release any of your students to anyone unless told to do so by the school administration.

b. If students are injured and need to be removed from the scene, follow policy adopted for this purpose at the local level, if applicable. If not, send someone to call for aid, such as hospital, ambulance service, or fire department--wherever help can be summoned quickly. The injured should be transported by proper means to a hospital for care.

13. Continue the transportation of students by:

a. The present bus if released.

b. Another bus.

c. Some other means, again following local policies of the district, but not until authorized to do so.

C. REPORT AN ACCIDENT

We will now go over forms and how they are to be filled out.

D. MECHANICAL FAILURE/BREAKDOWN PROCEDURES

Despite good design, engineering and/or the preventive maintenance programs, you may have mechanical failures occasionally. You must know what to do, how to do it, and when it should be done in case of a breakdown while on the road.

Let's begin by studying legal requirements as far as equipment is concerned.

Here is a suggested procedure for mechanical failure.

1. Stop the bus as far to the right of the road as possible, or on the shoulder of the road.

2. Secure the bus; activate 4-way hazard lights, and place chock under wheel.

3. Keep children in bus unless this is unsafe.

4. If location of the bus is unsafe, remove the children to a safer location (see EVACUATING THE BUS, p. .)

5. Place flags, flares, fusees, etc., in accordance with state law.

6. Telephone, radio, or send bus patrol (or capable student) to call the proper school authorities, giving location of the bus and description of breakdown.

7. See that all pupils are delivered to their destination.

8. Complete maintenance report(s).

E. EVACUATING THE BUS

Usually, students remain on the bus during an emergency. But, three situations require that you evacuate the bus:

FIRE OR DANGER OF FIRE

UNSAFE POSITION

1. Fire or danger of fire. A bus should be stopped and evacuated immediately if the engine or any portion of the bus is on fire. Passengers should move a distance of 100 feet or more from the bus and remain until the driver of the bus has determined that no danger remains. Being near an existing fire and unable to move the bus away, or near the presence of gasoline or other combustible material should be considered as "danger of fire," and students should be evacuated.

2. Unsafe position. In the event that a bus is stopped due to accident, mechanical failure, road conditions, or human failure, the driver must determine immediately whether it is safer for passengers to remain in the bus or to evacuate. You must evacuate if:

   a. the stopping point is in the path of train or adjacent to any railroad tracks.

   b. the stopping position of the bus may change and increase the danger. If, for example, a bus should come to rest near a body of water or precipice where it could still move and go into the water or over a cliff, it should be evacuated. The driver should be certain that the evacuation is carried out in a manner which affords maximum safety for the children.

   c. the stopping of the bus is such that there is danger of collision. In normal traffic conditions, the bus should be visible for a distance of 300 feet or more. A position over a hill or around a curve where visibility does not exist should be considered reasons for evacuation.

In an emergency it is possible for children to jam the emergency door by all trying to get out the door at the same time. To help avoid this situation, you should organize and conduct emergency exit drills for all students who ride the school buses.

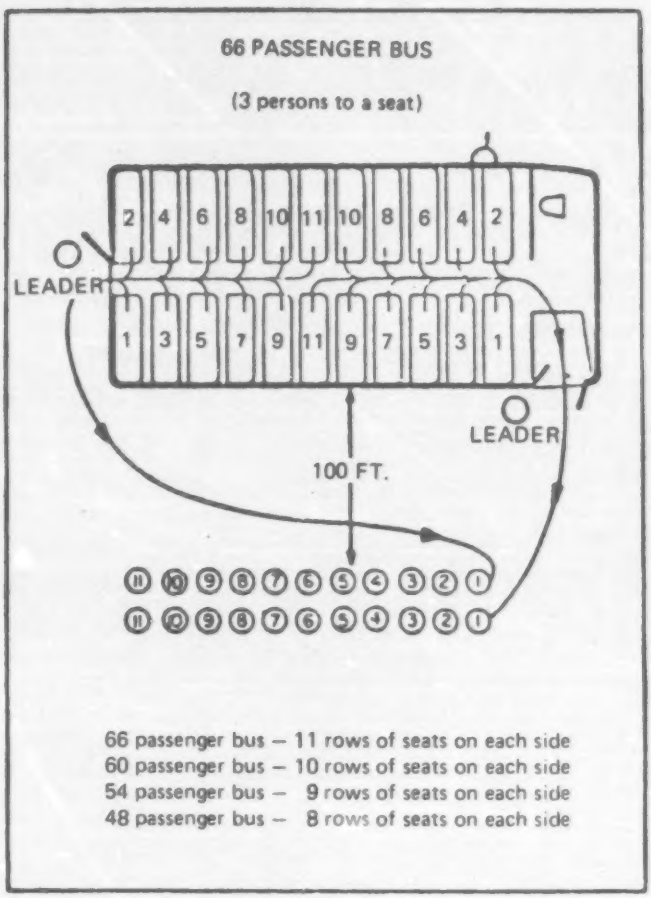
There are several ways to evacuate:

1. Everyone exits through the rear emergency door.

2. Everyone exits through the front entrance door.

3. Front half exits through the front door and rear half exits through the rear door.

4. Exit through side door alone or in combination with 1-3 above.


66 PASSENGER BUS
(3 persons to a seat)
2 4 6 8 10 11 10 8 6 4 2
LEADER
1 3 5 7 9 11 9 7 5 3 1
LEADER
100 FT.
66 passenger bus – 11 rows of seats on each side
60 passenger bus – 10 rows of seats on each side
54 passenger bus – 9 rows of seats on each side
48 passenger bus – 8 rows of seats on each side

*If applicable to your type of bus.

Front and Rear Door Evacuation Drill

F. EVACUATION PROCEDURE

Explain to all students who ride the bus the procedure to be followed if it is necessary to evacuate a bus. The following is one recommended procedure that may be adapted to a local situation.

Suggested Front Door Evacuation Drill Conducted on School Grounds

In the interest of safety, all drivers should conduct an emergency evacuation drill through the front door when they unload at the schools, at least once a month with each busload of elementary-age children. This approach does not take any more time than the regular unloading procedures. Follow these steps:

1. Stop the bus, set parking brake, and turn off engine (remove key).

2. Stand, open the door, face the children, and get their attention.

3. Give the command: "Emergency drill, remain seated, front evacuation."

4. Advise bus captain or designated student to guide passengers to assigned place of safety.

   a. A helper or a bus captain can be appointed each month to assist the driver in leading the students to a designated location on the grounds.

   b. A second helper can be appointed to stand outside the front door to count and assist passengers as they leave the bus.

5. Standing between the first occupied seats, you will then turn and face the front of the bus.

   a. Starting with the right-hand seat, tap the shoulder of the student nearest the aisle to indicate that those occupants shall move out. Say, "Walk-don't-run. Use handrails."

   b. Hold your hand before the occupants of the left-hand seat in a restraining gesture.

6. When the pupils in the right-hand seat have moved forward far enough to clear the aisle, dismiss the occupants of the left-hand seats.

7. Continue evacuation procedure as described, right and left seats alternately, until the bus is empty.

8. When the last seat is empty, walk to the front of the bus checking to see that everyone is out.

9. After you leave the bus, go to students and advise them of improvements to be made or tell them of the job well done, them immediately dismiss them for class. If there are students who are to continue on to another school, reload them and continue run.

Rear Emergency Door Evacuation of Side-Door Evacuation

Rear emergency door evacuation or side-door evacuation works in reverse of the one just explained. Explain how the doors work and instruct students not to open them until you give the command to do so.

G. IMPORTANT FACTORS IN EVACUATION DRILLS

Safety of children is of the utmost importance and must be considered first.

All drills should be supervised by the principal or by persons assigned by him/her to act in a supervisory capacity.

You are responsible for the safety of the pupils; however, in an emergency the driver might be incapacitated and not be able to direct the pupil emergency evacuation. School patrol members, appointed pupils, or adult monitors should assist in these drills. It is important to have regular student leaders available who know how to:

a. turn off ignition switch.

b. set emergency brake.

c. summon help when and where needed.

d. use fire axe or kick-out windows.

e. set flags and flares.

f. open and close doors, account for all pupils passing the driver's station.

g. help small children off bus.

h. perform other assignments.

Written consent from parent should be obtained before assigning a pupil as a leader.

"Emergency drills" for school buses should be organized beforehand in a manner similar to fire drills held regularly in schools. School bus drills should be held more often during fall and spring months, preferably when bus arrives at the school building with the pupils.

Drills should be held on school property and not on bus route.

Types of bus drills held should be varied.

Drivers should stay in bus during evacuation drills. Be sure that the emergency brake is set, ignition off, keys removed, and transmission in gear.

Do not permit children to take lunch boxes, books, etc., with them when they leave the bus--getting the child off safely in the shortest time possible and in an orderly fashion is the objective of a school bus evacuation drill.

The pupils should go to a distance of at least 100 feet from the bus in an "emergency drill" and remain there in a group until given further directions by the leader.

All children should be given an opportunity to participate, including those children who only ride a bus on special trips.

Each pupil should be instructed in the proper safety precautions while riding the bus and in drill procedure.

Instruct students in how and where to get help. Instructions and telephone numbers should be posted or otherwise carried in the school buses.

H. USING EMEREGNCY EQUIPMENT

When an emergency or accident happens, it's too late to learn how and where to use the emergency equipment. You should know the location and operation of:

FLAGS/REFLECTORS
HAZARD FLASHERS
WRECKING BAR
FIRST-AID KIT
FIRE EXTINGUISHER

1. Red flag and red reflectors as warning devices:

   a. Three red flags and three red reflectors are located in the driver's compartment.

   b. The flags are for daytime use.

   c. The reflectors may be used both day and night.

   d. Follow same directions for placement as explained above for fusees.

2. Use four-way hazard flashers with good judgment.

3. Wrecking bar:

   a. Some buses presently in use are equipped with a 24 inch wrecking bar (some buses may carry a small fire axe).

   b. The wrecking bar is usually located close to the driver's compartment.

      1. Under front passenger seat
      2. On the firewall
      3. By driver's seat

   c. Use the wrecking bar to pry open doors, windows, etc., in the event of an accident where damage to vehicle prevents easy exit by normal means.

4. First-aid kit:

   a. The first-aid kit should be located in the driver's compartment, be dustproof, well-labeled, and conform to federal standards.

Replace any item used from emergency equipment supplies as soon as possible.

5. Fire extinguisher:

   a. Fire extinguishers are located in the driver's compartment.

   b. Classes or fires; different types of extinguishers.

      Portable fire extinguishers work by either cooling the burning substance or cutting off the supply of oxygen to the burning substance. Which type you use depends on what class of fire occurs. Most buses are equipped with a dry chemical, stored pressure type of extinguisher.

Classification of Fires

Accepted standard practices separate fires into three general classes. Study the chart.

Most buses are equipped with extinguishers large enough to have an 8-B-C rating; 8-B-C means to be large enough to extinguish a fire of B or C class covering 8 square feet of surface.

The two basic fire extinguishers commonly used are the CO_2 and dry powder type.

CO_2 Extinguishers. CO_2 stands for carbon dioxide and these extinguishers are effective on small surface fires of Class A, on moderate fires of Class B, and on electrical fires of Class C since the gas is a nonconductor.

CLASS A	CLASS B	CLASS C
Fires of ordinary combustible material where the "quenching" and "cooling" effects of quantities of water, or of solutions containing large quantities of water, is of first importance. EXAMPLES: Fires in wood, textile fabrics, rubbish, etc.	Fires in flammable liquids, patroleum products, etc., "smothering" effect of the extinguishing agent is of first importance. EXAMPLES: Fires in gasoline, oils, and greases in tanks or containers, open vats, or running freely on floors or ground.	Fires involving electrical equipment where the use of a "non-conductor" extinguishing agent is of first importance. EXAMPLES: Fires involving electrical switchboards, motors, or wiring.

Classes of Fire

They are particularly effective on flammable liquid fires--alcohol, carbon bisulphide, and similar liquids--which will not support foam. However, they are not effective on deep-seated fires of ordinary combustible materials due to the lack of moisture. The gas or "snow" these extinguishers put out is non-injurious to material. But note that, due to the extreme cold temperature it reaches upon discharge, it will, if held too closely to the skin, cause a burn or frostbite effect. The duration of continous discharge ranges from one-half to one minute, depending upon size of extinguisher.

This type of extinguisher has a maximum range of 8 feet, but best results are obtained by playing the discharge as close to the fire as possible. The discharge should be applied first to the bottom edge of the fire and gradually progress forward or upward, moving the discharge cone very slowly from side to side.

The discharge should continue to be directed on the burned substance or surface to deposit carbon dioxide snow even after the fire has been extinguished. This will prevent possible reflash or backflash by cooling the hot surface and any glowing material or hot spots present.

To operate:

1. Remove from bracket.

2. If possible, stand upwind from burning material to prevent standing in the smoke and heat. This also will give you better advantage using the wind, if any, to carry the discharge material over the burning area.

3. Hold extinguisher in upright position. Due to construction of cylinder, extinguisher should not be laid on side to operate.

4. Remove hose or point horn toward the fire.

5. Remove safety lock pin by breaking the seal.

6. Squeeze to operate discharge valve.

7. Direct cone nozzle as desired. Care must be taken to prevent reflash. Care also must be taken not to walk into unburned material that could catch fire in a backflash and cause injury to you.

8. Close nozzle as soon as conditions permit.

9. Continue to open and close valve as desired.

10. Replace safety lock pin. Any fire extinguisher, regardless of how long or how much discharge was used out of it, should be recharged or replaced with a substitute after use.

Dry-powder Extinguisher (CO_2 Pressurized). The dry powder type of extinguisher consists of a charge of specially prepared dry powdered sodium bicarbonate with a cartridge of inert gas, such as carbon dioxide, to provide the expelling force. Discharge is in the form of a cloud of powder together with gas.

The range of the cloud may extend up to 25 feet horizontally depending on size of extinguisher and type of nozzle. In contact with fire, the powder gives off additional carbon dioxide gas with its smothering effect. Discharge should be directed at the base of the flames. On flammable liquid fires, best results are obtained when the discharge is directed in a sweeping motion as with carbon dioxide extinguisher.

Dry chemical extinguishers are effective on small fires of Class B, on electrical fires of Class C, and may be effective on small surface fires of Class A. Again, it is best to be upwind whenever possible so as to get greater coverage and protection for the operator.

To operate:

1. Remove from bracket.

2. Approach fire upwind.

3. Hold extinguisher in upright position. Due to construction of cylinder, extinguisher should not be laid on side to operate.

4. Remove safety lock pin by breaking seal.

5. Push level down to break seal in cartridge.

6. Squeeze nozzle handle. Direct flow of chemical to base of fire.

7. Use at will and release and resqueeze nozzle as needed.

8. Replace safety pin.

9. Replace or recharge immediately after use.

Dry Chemical Extinguisher (Air Pressurized). There is another type of dry chemical extinguisher which is commonly used. Again, they are filled with dry powder, finer than face powder in some cases. A gauge is mounted at the top of the extinguisher indicating the air pressure. The gauges are usually divided into two areas of green and red indicating low and high pressure. If the needle on the indicator stays in the green area, it is properly charged.

To operate:

1. Remove from bracket.

2. Hold in upright position. Due to construction of cylinder, extinguisher should not be laid on side to operate.

3. Pull safety pin by breaking seal.

4. If possible, stand upwind from burning material to prevent standing in smoke and heat.

5. Squeeze handle to discharge the powder.

6. Do not walk into unburned material that could catch fire in a backflash and cause injury to you.

7. Turn on and off as desired to control the fire.

8. The fire extinguisher, regardless of the extent of use, should be recharged or replaced with a substitute immediately after use.

HOW TO GET FIRE EXTINGUISHER SERVICED

Fire extinguishers are required to be serviced each year, preferably before school starts in September. The servicing must be done by a properly licensed person.

WHAT TO DO AFTER THE FIRE IS OUT

Who to call--

How to report damage--

I. LOCAL POLICIES

You are in full charge of the bus at all times. Knowing proper emergency procedures, emergency evacuation procedures, and accident scene procedures is a must! These areas of responsibility deal directly with the safety and care of your passengers in the event of an accident, as well as other emergency situations which may arise.

As the school bus driver, you must know:

A. what to do.

B. how to do.

C. when to do.

WHAT:	BUS EVACUATION
HOW:	EXACT PROCEDURE FOR EVACUATING PASSENGERS
WHEN:	IN CASE OF FIRE, OTHER IMMEDIATE DANGER TO PASSENGERS)

Here are your district's policies on what the driver is to do about eight issues which may arise in an accident/emergency situation.

ISSUE 1. Accidental death/injury of bus passenger.

ISSUE 2. Death by natural causes while riding the school bus.

ISSUE 3. Property damage to/by school bus.

ISSUE 4. Arrangements for tow/repair of school bus.

ISSUE 5. Arrangements for transportation of passengers from scene of bus accident or breakdown.

ISSUE 6. Reporting procedures for disciplinary action, accidents/ breakdowns.

ISSUE 7. Interactions with pupils and their parents for purposes of discipline.

ISSUE 8. Procedures for reporting to police regarding accidents, drug use, etc.

J. REVIEW QUESTIONS

1. When you are involved in an accident, under what circumstances must you submit an accident report to state enforcement officers?

2. What emergency devices are carried on your bus?

3. When and where should school bus emergency evacuation drills be conducted?

4. When you operate a fire extinguisher, where should you direct the discharge? What type of motion should you use in directing the discharge? In what position should you hold the extinguisher?

5. What is the major cause of school bus accidents?

6. What is the most dangerous part of the bus trip in terms of potential student injuries?

7. How does driving at night increase the potential for accidents?

8. What is the most common mechanical failure on school buses?

9. As a school bus driver, the law says you have a duty to conform to a standard _____ which will protect your passengers from harm.

10. If you fail to conform to the standard of conduct, and you conduct is connected to someone's injury, you could be liable for _____.

11. The bus driver's standard of conduct is the same as the care used by "a reasonable careful person," except when he/she is transporting very young children. Then he/she may be expected to act with a (higher or lower?) degree of care.

12. Name two emergency conditions when you must evacuate the bus.

    a.

    b.

13. Why should you not discuss an accident with anyone except school officials and law enforcement officers?

14. How should you arrange for the transportation of your passengers from the scene of a bus accident or breakdown?

15. A gasoline fire is a Type fire.

    A fire in the seat upholstery is a Type fire.

    An electrical fire is a Type fire.

UNIT VI

DETECTING HAZARDS

TABLE OF CONTENTS

A. OVERVIEW 100

B. SEARCHING FOR CLUES 101

C. DETECTING ROADWAY HAZARDS CLUES 105

D. DETECTING OFF ROAD HAZARDS CLUES 107

E. DETECTING SINGLE VEHICLE HAZARD CLUES 109

F. DETECTING MULTIPLE VEHICLE HAZARDS 111

G. DETECTING OTHER ROAD USERS HAZARDS 112

H. DETECTING COMBINATION VEHICLE/ROADWAY HAZARDS 113

I. PRACTICE ON PAPER 113

J. REVIEW QUESTIONS 120

OBJECTIVES

By the end of this unit, the students should be able to:

1. Use clues to detect potential hazards.
2. Determine degree of actual hazards.
3. Select what action they should take to avoid hazards.

A. OVERVIEW

You've heard it said that every time you get into the bus, you take your life in your hands. Yours and every one of your passengers. With the recent emphasis on defensive driving, more and more drivers are becoming aware that just about every driving situation has potential hazards. It's not enough just to know what you're doing. You have to know what everyone else is doing, too. If you've been driving a school bus for any length of time, you are aware of some of the hazards involved in your daily run. Some hazards are obvious; some aren't. Some are always there, like the sharp curve. And, some appear out of nowhere, depending on the changing traffic situation. Do you consciously search for hazards as you drive?

In this unit, you'll practice a systematic technique for detecting hazards. You'll use most of your senses to pick up clues that indicate potential and actual dangers. And, you'll make decisions about how you should adjust your driving to minimize or avoid hazards. You should get into the habit of being an "automatic hazard detector." Expert school bus drivers drive well because they find the hazards before the hazards find them.

1. ROADWAY HAZARDS

2. OFF ROAD HAZARDS

3. SINGLE VEHICLE HAZARDS

4. MULTIPLE VEHICLE HAZARDS

5. OTHER ROAD USERS HAZARDS

6. COMBINATION VEHCILE/ROADWAY HAZARDS)

You should develop a "mental image" of the clues associated with each hazard. The habit of detecting clues must be strong enough that you can:

1. Distinguish clues within a complex, changing traffic situation.

2. Identify them within the short period of time your eyes are focused upon the situation in normal scanning.

3. Detect them even when you are not consciously looking for them.

Failure to recognize hazards in time is a major cause of accidents.

Passenger distraction, inattention, and misinterpretation of traffic sounds have caused drivers to react late to auditory clues of an impending crash.

Safe drivers tend to assure themselves of information 8 to 12 seconds ahead. The smallest lead time experienced drivers tend to allow is 1-3/4 seconds.

Even after several months, new drivers tend to spend more time monitoring only the road straight ahead than experienced drivers.

Accident fatalities and rear-end collisions can be expected to be high in urban areas as a result of the increase of pedestrian and motor vehicle traffic. Approximately 12-15 percent of all urban school bus accidents are rear-end collisions.

B. SEARCHING FOR CLUES

Scan the environment for clues of potential hazards:

1. Continuously scan surroundings on and off the roadway, shifting your gaze frequently. Look well ahead in the lane to focus distance relative to the bus' speed and the roadway location. Specifically:

   a. Focus at farther distances as your speed increases.

   b. View the road ahead one full block in a city.

   c. Focus at farther distances down the road in rural areas than you would in urban areas.

2. Avoid fixing your eyes on the road surface immediately forward of the bus hood. Keep you eyes moving.

3. An unobstructed view is important.

   a. In a moderate number of accidents, collisions occured at intersections where vision was reportedly obstructed or limited by buildings, vegetation, or parked cars.

   b. Roadside features that obscure your vision at intersections should be treated as if they were traffic lights and signs requiring you to stop. By stopping, you have an opportunity to study the traffic situation more carefully before proceeding, rather than haphazardly continuing.

4. Observe other drivers. It is very difficult to improve upon good perception habits by experience alone. Development of good scanning procedures will help build a foundation for future safe school bus driving.

   a. Accidents relating to overtaking vehicles have been caused frequently by the driver's failure to note

the actions of vehicles ahead. For example, a moderate number of accidents are caused by a driver's failure to note traffic stopped ahead for a left turn.

b. Another cited cause is failure to check traffic in the adjacent lane prior to entering it to pass and/or to avoid impact with a stopped vehicle.

5. You must know how to gather critical clues.

a. The two second following distance is that part of the intended path of travel which extends for a distance of two seconds in front of the driver's vehicle. It is that distance or space interval you should follow behind an ongoing vehicle. Since an ongoing car is moving at about the same speed as you are, this distance provides you with adequate space for stopping should the ongoing car stop suddenly. It also provides you with a good visibility. Since this distance varies with the speed of cars, it is adequate for all speeds under normal roadway conditions. Of course, when traction is reduced, the time should be increased to three or more seconds.

b. The four second stopping zone is that part of the intended path of travel that extends for a distance of four seconds in front of the driver's vehicle. It is that minimum distance you will usually need to stop for a fixed object in the roadway or for other traffic moving across your path of travel. This could be an intersecting or entering car, a pedestrian, or an animal. It should be obvious that you should never allow a hazard to move or remain in the four second stopping zone. Otherwise a collision would be most difficult to avoid.

c. The twelve second travel path is the distance that extends for a total of twelve seconds ahead of your vehicle and along the intended path of travel. This should be considered the minimum sight distance you need ahead of your car. Under ordinary conditions, this should give you time to identify, evaluate and decide what to do about a hazard before your four second stopping zone is reached.

There will be situations, such as bumper-to-bumper rush hour traffic, when these timed distances may not be practical. However, they should be goals that a driver should always strive for.

You should better understand now why we usually think of distance in terms of time. Timing is extremely important for avoiding HTS hazards. Time

is easier and more accurate to estimate than distance. Also, you have better control over time because of your ability to control the speed and placement of your car.

a. The driver, by continuous surveillance of traffic, traffic controls, and the surrounding environment will be more likely to recognize hazards while there is time to avoid them.

b. You receive the vast majority of the clues you use through your eyes. The more intently you fix your central vision on a particular object, the less aware you will be of clues from your larger field of indirect vision.

6. You must know the demands imposed on you when driving in urban or congested areas.

a. Visual demands on the driver appear to be about three times as much at 20 miles per hour in the city as at higher speeds on a modern divided highway. The mere presence of pedestrians and children increases your surveillance requirements.

b. The greater need for surveillance in the city is partially due to the greater concentration of other vehicles. Traffic controls and pedestrian traffic also contribute to making city driving a difficult task.

7. You must know the primary sources of potential trouble, and their clues, to be prepared for sudden actions by others.

a. Driving alongside parked vehicles is potentially hazardous because your view is limited and hazards can appear when there is little time or space for evasive action.

b. Three key sources of hazards are:

The spaces between parked vehicles through which pedestrians and animals may dart into the street.

The parked vehicle that may suddenly move into the bus' path.

Occupants of parked vehicles who may open the vehicle doors to get out without first checking the traffic situation. Positioning the bus at

least four feet out from the parked vehicle will place it beyond the arc of a door being opened.

People stepping out from between parked vehicles.

8. Usually, there are clues from parked vehicles of impending entry into a driving lane. Among the clues you will find useful are:

   a. Exhaust fumes. These indicate the engine is running.

   b. Back-up lights. For these lights to be activated, the ignition must be on and the gearshift lever in reverse. The appearance of back-up lights is often followed by a shift to a forward gear.

   c. Brake lights. Most drivers depress the brake pedal, thus activating the brake lights, just prior to shifting to a forward gear.

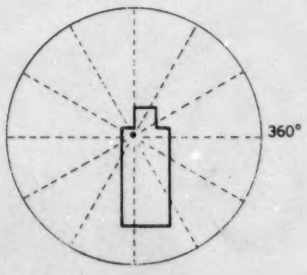
   d. Front wheels. The direction toward which the front wheels are pointed may indicate whether the vehicle is ready to leave the space or still maneuvering into a good position for leaving.

   e. Steering wheel. The steering wheel of vehicles parked to the right of the bus can be seen from some distance. If a steering wheel is not visable, it may mean the driver is behind the wheel.

   A separation of at least a car width from a vehicle that is being parallel parked is recommended to accomodate the wide leftward swing of the vehicle's front end as it backs to the right.

9. You should know that you have an active, not passive, role when being passed. Continuously assess the changes for the other driver to safely complete the pass within the distance available. Make adjustments in the bus' speed and position to accommodate the passing vehicle.

10. Develop the surveillance habit of scanning 360° around the bus.



C. DETECTING ROADWAY HAZARDS CLUES

ROADWAY HAZARDS

1. Slight Distance Limitations

   a. Curves

      (1) Watch the road ahead for indications of a curve.

      (2) When approaching a curve, estimate a safe speed (if not posted) from the degree of curvature and banking.

   b. Hills and Dips

      (1) Watch the road and roadside conditions (e.g., trees and poles) for signs of hills.

      (2) In approaching a downgrade, identify a grade which is steep enough to require downshifting.

      (3) Identify the presence of dips which may obscure another vehicle.

2. Maneuvering Limitations. Detect the following potential maneuvering limitations:

   a. Narrow or narrowing lanes.

   b. Roadway construction that is difficult to detect.

   c. When road surface ruts are present in gravel or dirt roads, you will:

      (1) Assess the road surface characteristics adjacent to the rut.

      (2) Assess the depth of the rut.

3. Traction Limitations

   a. Rough Surfaces

      (1) Detect surface irregularities on asphalt and concrete, such as potholes, cracked pavement, etc.

      (2) On a wooden surface, look for cracks, holes, and nails.

      (3) On a brick road, look for holes, bumps, cracks, loose bricks, and slippery spots.

      (4) "Washboard" conditions, e.g., continuous ruts.

b. Slippery Surfaces. Anticipate potentially slippery surfaces:

(1) Anticipate the smoothness of concrete or asphalt road surfaces at intersections.

(2) Recognize areas of the roadway which are soaked with oil or grease.

(3) Estimate depth and extent of deep water which partially or totally covers the roadway.

(4) When driving on snow- or ice-covered roadways:

(a) Judge the effect of traffic and temperature on road surface friction.

(b) Observe closely the movement of vehicles approaching on side streets.

(c) Note whether vehicle wheels are skidding.

(5) If ice is melting on the roadway:

(a) Be alert for ice patches near shaded areas (e.g., underpasses and buildings).

(b) Note spots where direct sunlight may have accelerated melting.

(c) Look for additional ice patches ahead on the roadway.

c. Loose Surfaces. Detect the signs on the following loose surfaces:

(1) Gravel

(2) Soft sand

(3) Wet leaves

4. Traffic Conflict Points

a. Recognize potentially hazardous roadway conditions when approaching and emerging from toll plazas:

(1) Look for erratic driving from other drivers whose attention may be diverted while fumbling for money.

(2) When emerging from the toll plaza, look for other drivvers accelerating rapidly and cutting in to get ahead of the "pack."

b. If driving on an entrance ramp, be alert for vehicles which are stopped or slowing down on the on-ramp.

c. If driving on a long entrance ramp with an acceleration lane that continues on as an off-ramp or deceleration lane, be aware that vehicles may leave the main roadway and cross over to merge onto the acceleration lane. Out-of-state drivers may be unfamiliar with exits and merge at the last minute.

d. When approaching and entering an off-ramp:

(1) Be alert for vehicles entering the deceleration lane, if that lane is also part of the acceleration lane from which vehicles enter the roadway.

(2) When nearing the end of the off-ramp, look for other vehicles which may be stopped or waiting in line at the end of the off-ramp.

e. When approaching and passing interchanges on the freeway, note vehicles in the deceleration lane swinging back into the lane at the last minute.

f. Look for lead vehicle deceleration at the following locations:

(1) Uncontrolled intersection.

(2) Entrances to highway (e.g., on-ramps), including short acceleration lanes and left-hand entrances.

(3) Highway exits (e.g., off-ramps)., including short deceleration lanes and left-hand exits.

(4) Divergence points (forks in the road).

LOCAL ROADWAY HAZARDS:

D. DETECTING OFF ROAD HAZARDS CLUES

OFF ROAD HAZARDS

1. Slight Limitations

a. When driving on general highway, be alert for hidden traffic, pedestrians, or animals obscured from view by nearby roadside stuctures, trees, or dense vegetation.

b. When driving in urban areas:

(1) Minimize distractions from the environment by seeking out traffic lights possibly "embedded" in lights from neon signs.

(2) In commercial areas, be alert for vehicles emerging from driveways and alleys obscured by buildings, parked vehicles, or pedestrian traffic on the sidewalk.

2. Maneuver Limitations. When driving on roads with shoulders, periodically observe the conditions of the shoulders, including:

   a. Width

   b. Surface condition

   c. Alignment with pavement

   d. Presence of obstructions (e.g., signs, guardrails)

   e. Pitch of the roadbed

3. Traffic Entry Points

   a. Vehicle Entry Points

      (1) When approaching entrances to driveways, alleys, and parking lots, look ahead to determine their location.

      (2) When driving in off-street areas, be alert for vehicles in or crossing the car's path.

      (3) Be alert for vehicles backing up to the exit or entering a parking space.

   b. Pedestrian Entry Point

      (1) When approaching a commercial bus stop:

         (a) Look for pedestrians crossing the street to board the bus or streetcar.

         (b) Check to see that pedestrians have reached safety before starting.

      (2) Near playgrounds, residential areas, schools:

         (a) Be alert for children playing or darting into the path of your bus from behind vehicles, structures, or vegetation.

         (b) Look for children sledding or otherwise playing in the snow or on the ice.

(c) When driving in an off-street area, be alert for vehicle and pedestrian traffic that may be entering or crossing the traffic aisle from any direction.

LOCAL OFF ROAD HAZARDS:

E. DETECTING SINGLE VEHICLE HAZARD CLUES

SINGLE VEHICLE HAZARDS:

You should be able to recognize clues predictive of traffic hazards involving the motions of an individual vehicle.

1. General - In general, when surveying traffic, observe other drivers' driving behavior so that you can watch for clues to how they react:

   a. Note drivers who frequently change lanes as opposed to those who remain in the lane.

   b. Note drivers who operate their vehicles with frequent changes in speed as opposed to those who maintain a steady speed.

   c. Note those drivers who do not signal prior to a maneuver as opposed to those drivers who do signal consistently.

   d. Note those drivers who stop suddenly in non-emergency situations as opposed to those drivers who decelerate gradually to stop.

   e. Note out-of-state license plates; drivers may be unfamiliar with locations and road conditions.

2. Losing Control - Recognize clues indicating that another driver may lose proper control of vehicle:

   a. Surface conditions that might adversely influence oncoming vehicle control (e.g., slippery surface, ruts, deep snow, etc.)

   b. Movements of the other vehicle including the following:

      (1) Turning too fast, e.g., if oncoming driver is turning too sharply after an off-road recovery.

      (2) Approaching from the side too fast to stop or turn.

      (3) Closing too fast from the rear.

   c. Movements of your bus, e.g., stopped too quickly to allow a following vehicle to stop.

3. Lack of Communication by Other Drivers - Look for clues or situations in which the driver of another vehicle may execute a maneuver without signalling.

   a. Whenever a turn may be made, e.g., an oncoming car may suddenly turn left, particularly when:

      (1) the vehicle is slowing, or

      (2) the other driver is not attending to your oncoming bus.

   b. When a stopped vehicle gives an indication of imminent movement, e.g., parked car with driver in seat, exhaust, or turned wheels.

   c. When a driver may be giving a false indication, e.g., moving to the left near an intersection when he or she intends to turn right. Any turn signal may be uncancelled from previous maneuver.

4. Failure of the Other Driver to Observe - When there are clues indicating that another driver may not have observed the bus and, therefore, may not be prepared to yield the right-of-way. These clues include the following:

   a. Driver not responding, e.g., approaching intersection from the side without slowing.

   b. Driver's vision obscured, e.g., posts, windows.

   c. Driver's view restricted, e.g., the vehicle is partially hidden by trees, detectable to you only be reflection or dust.

   d. Your bus may not readily be seen, e.g., when sun is in the other driver's eyes, etc.

5. Inadequate Adjustment by the Other Driver - Look for indications that another driver is not adjusting properly to a situation. Impatience causes many improper actions. He or she may execute a maneuver that will cause hazard to you, including the following:

   a. Other driver isn't adjusting to an obstruction, such as a pothole or barrier.

   b. Other driver isn't adjusting to a surface condition such as ice or snow.

   c. Other driver isn't adjusting to a pedestrian, e.g., turning a corner into a street blocked by pedestrians.

d. Other driver isn't adjusting to another vehicle, e.g., passing vehicles forced to cut back abruptly.

6. Slow Moving or Stopping Vehicles - Watch for indications that another vehicle is slowing or may stop suddenly.

a. Slow-moving vehicles:

Farm vehicles

Underpowered vehicles

Trucks on hills

b. Frequently stopping vehicles:

Buses, including other school buses

Buses and trucks carrying inflamables at railroad crossings

Postal delivery vehicles

c. Vehicles that are engaged in the following maneuvers:

Turning or exiting

Entering the roadway

Merging with other vehicles

Approaching controlled intersections or railroad crossings

F. DETECTING MULTIPLE VEHICLE HAZARDS

MULTIPLE VEHICLE HAZARDS

You should be able to recognize the clues in a traffic pattern that are predictive of a potential conflict.

1. Traffic Convergence. One or more vehicles converging on a traffic stream may force another vehicle into a conflict.

a. May force another vehicle to change lanes, including entering from side of road, driveway, freeway ramps, etc.

b. May cause other vehicles to stop suddenly.

2. Vehicle Obstructions. A vehicle slowing or stopping may cause another vehicle to drive around it, causing a conflict.

a. Drivers tailgating, indicating a chance of a sudden pass.

b. Slow-moving or stopped vehicles encourage other vehicles attempting to pass.

c. A vehicle entering into the roadway, forcing other vehicles around it.

3. Limited Traffic Visibility. One vehicle may limit another's visibility, allowing the other driver to enter a potential conflict, e.g., an oncoming driver turns left.

G. DETECTING OTHER ROAD USERS HAZARDS

OTHER ROAD USERS HAZARDS

You should be able to recognize clues of potential conflict with other road users, including pedestrians, cyclists, and animals. Clues will include the following:

1. Position of Road User Relative to Roadway

a. Pedestrian near roadway.

b. Cyclist in roadway.

2. Motion of Road User

a. Pedestrian running toward roadway.

b. Children at play.

c. Cyclist moving toward roadway.

3. Road User's Ability to See

a. Road User's vision, e.g., pedestrian carrying packages, umbrella.

b. Line of sight, e.g., driver alighting from a parked vehicle.

4. Attentiveness of Road User

a. Activity, e.g., child chasing ball.

b. Attention, e.g., pedestrian looking the other way, talking, etc.

5. Lack of Control, e.g., motorcyclist turning on a slippery surface, gravel, etc.

H. DETECTING COMBINATION VEHICLE/ROADWAY HAZARDS

COMBINATION VEHICLE/ROADWAY HAZARDS

You should be able to identify potential hazards arising out of the interaction between vehicles and roadway.

1. Decision Point. Any point in the roadway at which drivers are confronted with decisions represented a potential point of conflict; e.g., a vehicle starting to exit from a freeway may suddenly return to the freeway; drivers unfamiliar with route signs may be in the wrong lane for their destination and change lanes suddenly as two major routes split.

2. Compression Point. Any point at which the roadway is compressed represents a potential source of conflicts, e.g., a vehicle approaching a point where four lanes become two, may suddenly change lanes.

I. PRACTICE ON PAPER

Now you'll practice detecting hazards "on paper" before actually going out on the road for "real life" practice. Use the HAZARD DETECTION WORKSHEETS which follow. You'll find a numbered worksheet for each of the six types of hazards. Follow these steps:

1. Read the hazard situation in the left block.

2. In the second block, read the usual and unusual clues that indicate the hazard.

3. Decide how bad the hazard is and write your judgment in the third block.

4. Write in YOUR ACTION--what you'd do to avoid or minimize the danger of the hazard.

The first few have been done for you as examples. Use these as a take-off point for discussion before you fill in the rest of the worksheets.

Discuss your completed worksheets with the entire class.

HAZARD DETECTION WORKSHEET #1

ROADWAY HAZARDS	USUAL AND UNUSUAL CLUES	HOW BAD IS IT?	YOUR ACTION
Sight Distance Limitations			
You are coming up to a blind intersection.	There is no traffic light or stop sign. A building on the left corner is under construction, blocking your view of traffic coming from the left. Traffic is heavy in both directions.	Moderately bad, but not impossible to negotiate safely.	Stop at intersection. When there's gap in traffic from left, edge forward until you can see around building. When gap in traffic from both sides, sound horn and proceed.
Maneuvering Limitations			
You are directed by a detour sign onto an unfamiliar road which has a hairpin curve.	You can see a road sign illustrating the direction and angle and a caution sign.	Not too serious	Slow down to 6 mph and be sure to start the turn with enough room to clear it safely.
Traction Limitations			
You are crossing a bridge in snowy weather.	The car ahead of you is fishtailing slightly; the bridge surface looks glazed.	Could be very bad.	Ease off on accelerator and allow engine to slow bus; keep accelerating enough to keep the wheels turning.
Traffic Conflict Point			
You are approaching a traffic circle that is fed by four roads, one from each direction.	Cars are entering the circle from every road and there is a truck in the circle approaching from the left.	Potentially bad.	Wait for an acceptable gap in traffic from the left. Also, wait for vehicles coming from the left. Also, wait until vehicles coming from the left, and signalling to turn right into your road, have actually started to turn. Then proceed.

HAZARD DETECTION WORKSHEET #2

OFF-ROAD HAZARDS	USUAL AND UNUSUAL CLUES	HOW BAD IS IT?	YOUR ACTION
Sight Limitations			
You are approaching a hidden driveway 65 feet ahead on your right.	You are going 20 mph. You see a vehicle backing out onto the road; the car is half-hidden by hedges. You've noticed other driveways along this road. The car doesn't have the brake lights on.	Pretty bad, the driver view of the road is blocked, and the driver is still backing.	Sound horn. Take evasive action to avoid hitting the backing car: brake. You should stop within about 60 feet.
Maneuvering Limitations			
You must pull into the museum driveway.	The driveway is a narrow semi-circle. There are two cars stopped in the driveway, blocking passage of a vehicle the size of your bus.		
Traffic Entry Points			
You are approaching a shopping center on your left.	There is no traffic light to control the flow of traffic in and out of the shopping center. Several cars are waiting to enter the road. The car nearest the road has the left turn signal on and the driver is looking to the left.		

HAZARD DETECTION WORKSHEET #3

SINGLE VEHICLE HAZARDS	USUAL AND UNUSUAL CLUES	HOW BAD IS IT?	YOUR ACTION
Loss of Control			
There is a car ahead driven by an intoxicated person. The car is partially out of control.	The vehicle's left wheels keep going over the center line into oncoming lane. The car then crosses back to the right lane with a weaving motion. Car scrapes the right retaining wall and keeps going. Driver does not respond to bus' horn or the blinking of the bus headlights.		
Lack of Communication			
There is a motorcycle slowing down in front of you. The motorcyclist gives no hand signal.	You are approaching an intersection. The cyclist pulls left close to the center line and the lights come on.		
Lack of Observation			
A car that has passed you starts to cut back in front of you.	There is a car about one car length in front of you, going 40 mph. You are going 40 mph. The passing car is going 45 mph.		
Inadequate Adjustment			
The car behind you is closing	You are going 30 mph. It looks like the car is traveling much faster. You are on a two-lane road and a truck is in the oncoming lane.		
Slow Moving or Stopped Vehicles			
You are following a tractor.	The tractor looks like it is traveling 15 mph. The driver has the flashers on.		

HAZARD DETECTION WORKSHEET #4

MULTIPLE VEHICLE HAZARDS	USUAL AND UNUSUAL CLUES	HOW BAD IS IT?	YOUR ACTION
Traffic Convergence			
You are on an expressway approaching an entrance ramp.	You see a MERGE sign. Several cars are stopped on the entrance ramp looking for a gap in traffic. You are 100 feet from the entrance.		
Vehicle Obstructions			
A car that has overheated is stopped ahead in your lane on a four-lane road.	Several cars ahead are stopped with left turn signals on, waiting to merge into the passing lane.		
Visibility Limited by Traffic			
An ambulance is approaching but you can't see it.	There is a truck behind you and a steady stream of oncoming traffic. You can hear the siren. Cars in the oncoming lane are pulling to the side of the road.		

HAZARD DETECTION WORKSHEET #5

OTHER ROAD USERS HAZARDS	USUAL AND UNUSUAL CLUES	HOW BAD IS IT?	YOUR ACTION
Road User's Position			
You are approaching a school zone and see a police officer in middle of the road.	You have passed a flashing yellow sign saying 15 mph. The police officer directing traffic waves everyone to go straight. You have your turn signal on.		
Road User's Motion			
A woman on a bicycle is traveling with traffic in the same direction you are going.	You are closing on the biclycle which is to your right. She gives a left hand signal and starts to swerve left.		
Road User's Ability to See			
A child is waiting to cross the street.	The child turns his head right and left but the hood on his snowsuit partially blocks his view. He is not at a crosswalk. He steps off the curb.		
Attentiveness of Road Users			
An elderly man is crossing the street.	You have the green light. He is not at a crosswalk. He steps off the curb.		
Road User's Lack of Control			
A car is pulling a boat and trying to pass you.	The boat begins to fishtail as the car picks up speed. The car's brake lights go on.		

HAZARD DETECTION WORKSHEET #6

VEHICLE/ROADWAY HAZARDS	USUAL AND UNUSUAL CLUES	HOW BAD IS IT?	YOUR ACTION
Decision Points			
You are coming to an unmarked fork in the road.	Your route takes off to the left road in the fork. You are following a car with an out-of-state license plate. The brake lights go on.		
Compression Points			
You are traveling on a four-lane road. The road ahead goes from a four-lane road into a two-lane road.	You see a sign like this:	Could be confusing.	Look for specific direction from other signs, i.e., RIGHT LANE ENDS, FROM SINGLE LANE TO LEFT, FORM SINGLE LANE TO RIGHT, DO NOT PASS.
	You are in the right lane.		

123

UNIT VI

J. REVIEW QUESTIONS

Check the letter of the answer that best completes the statement or answers the question:

1. Accident fatalities and rear-end collisions can be expected to be in _____ areas as a result of the increase of pedestrian and motor vehicle traffic.

   a. expressway
   b. rural
   c. urban
   d. all of the above

2. To detect hazards, you must be able to distinguish _____ within a complex, changing traffic situation.

   a. clues
   b. tailights
   c. accidents
   d. rules

3. You should develop a(n) _____ of the clues associated with each hazard.

   a. avoidance pattern
   b. "mental image"
   c. peripheral vision
   d. distraction habit

4. You should focus your eyes at farther distances ahead on the roadway as your speed _____.

   a. decreases
   b. stabilizes
   c. increases
   d. none of the above

5. Many collisions occur at intersections where _____ is obstructed or limited by buildings, vegetation, or parked cars.

   a. hearing
   b. stopping
   c. path
   d. vision

6. The more intently you fix your central vision on a particular object, the _____ aware you will be of clues from your larger field of indirect vision.

a. less
b. more
c. better
d. more directly

7. Driving alongside parked vehicles is potentially hazardous because your view is limited and hazards can appear when there is little time or space for

a. accelerating quickly
b. evasive action
c. parking maneuvers
d. both a. and c. above

8. An example of a single vehicle hazard is:

a. an army convoy
b. traffic at turnpike toll booths
c. a slow moving tractor
d. a car passing you when there is a vehicle in the oncoming lane

9. Multiple vehicle hazards include:

a. vehicles tailgating the bus
b. a driver on an on-ramp entering the flow of traffic on a freeway
c. vehicles that limit another vehicle's visibility
d. all of the above

10. Any point in the roadway at which drivers are confronted with decisions are potential:

a. single vehicle hazards
b. combination vehicle/roadway hazards
c. off-road hazards
d. none of the above

Check whether these statements are mostly True or False

11. Any point at which the roadway is compressed (for example, a four-lane road narrows into two lanes) represents a conflict point. T F

12. Lack of communication by other drivers on the road is not a hazard to your safe driving. T F

13. A driver who frequently changes lanes should be watched as a potential hazard. T F

14. Drivers who do not signal prior to a maneuver are potentially hazardous. T F

15. There are certain locations on any route where you can anticipate that other vehicles will decelerate. T F

16. The condition of the shoulder of the road shouldn't concern you if you don't intend to pull off the roadway. T F

17. In urban areas, you have to be more alert for traffic lights because of neon lights and other lights on the street. T F

18. The primary hazard around playgrounds, residential areas, and schools is that other drivers tend to tailgate. T F

19. You should depend on other drivers to signal their intentions just as you signal yours. T F

20. You can use usual and unusual clues to assess how bad a hazard is before you take action. T F